GOVERNMENT OF THE GOLD COAST.

MEDICAL AND SANITARY REPORT

FOR THE YEAR

1914.

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GOLD COAST.

ANNUAL REPORT FOR THE YEAR ENDING DECEMBER 31ST, 1914.

I.—ADMINISTRATIVE.

STAFF.

1 Principal Medical Officer.
1 Deputy Principal Medical Officer.
1 Senior Sanitary Officer.
2 Provincial Medical Officers.
3 Senior Medical Officers.
1 Sanitary Officer.
1 Pathologist.
55 Medical Officers, 6 of whom are Medical Officers of Health.

CHANGES IN STAFF.

The Principal Medical Officer, Dr. F. G. Hopkins, returned from leave of absence and resumed duty on May 13th.

The Deputy Principal Medical Officer, Dr. E. H. Tweedy, served with the Togoland Field Force from August 18th to October 10th.

The Senior Sanitary Officer, Dr. David Alexander, proceeded on leave of absence on November 11th.

The Provincial Medical Officer of Ashanti, Dr. H. B. S. Montgomery, gained well earned promotion, and was promoted to be Senior Medical Officer, Grade I.—Deputy Principal Medical Officer—of Nigeria, Southern Provinces.

Dr. J. A. Clough, Provincial Medical Officer, proceeded on leave on April 30th, and resumed duty on September 9th, being detailed later as Provincial Medical Officer, Ashanti.

Dr. E. W. Graham, Senior Medical Officer, Grade III., was promoted to be a Senior Medical Officer, Grade II.—Provincial Medical Officer—and was detailed to the Northern Territories.

Dr. J. H. Collier, Senior Medical Officer, Grade III., was transferred from Nigeria, Southern Provinces, to this Colony, *vice* Dr. E. W. Graham promoted.

Dr. W. W. Claridge was promoted in the Colony to be a Senior Medical Officer, Grade III.

Dr. E. C. Adams, Medical Officer, Nigeria, Northern Provinces, was transferred to this Colony on promotion to Senior Medical Officer, Grade III.

Dr. A. C. Parsons, Medical Officer, Nigeria, Northern Provinces, was transferred to this Colony on promotion to Sanitary Officer, *vice* Dr. G. C. Walker, retired.

Dr. F. S. Harper acted for varying periods as Provincial Medical Officer of Ashanti and the Northern Territories.

The following Officers acted as Senior Medical Officers for varying periods:—Drs. C. V. Le Fanu, C. H. D. Ralph, R. O. White, and T. H. Dugon.

Dr. F. J. A. Beringer continued to be lent to Sierra Leone as a Sanitary Officer.

Dr. J. W. Scott-Macfie was promoted from being a Medical Officer in Nigeria to be Pathologist in this Colony.

Drs. M. B. Hay and J. B. Alexander were appointed Medical Officers of Health.

The following new appointments to the West African Medical Staff serving in this Colony were made:—Drs. R. G. Ball, J. Atkinson, A. S. Burgess, and J. I. Baëza.

Dr. B. Knowles' appointment was terminated. Dr. A. Lundie and Dr. H. McC. Hänschell were allowed to resign.

Drs. G. F. Forde and N. A. D. Sharpe were transferred to Nigeria, and Drs. J. A. Harley and S. L. Brohier from the Gambia to this Colony. Dr. F. G. Thompson was invalided out of the service, and Dr. J. A. Harley and Dr. J. Atkinson died during the year.

Dr. G. J. W. Keigwin was seconded for service under the War Office, and Dr. M. B. Hay for service under the Admiralty.

The following Officers served with the Togoland Field Force:—

Dr. E. H. Tweedy, Deputy Principal Medical Officer.
,, W. W. Claridge, Senior Medical Officer.
,, G. E. H. Le Fanu, Medical Officer.
,, H. O'H. May ,,
,, J. M. O'Brien ,,
,, H. T. Palmer ,,
,, G. de P. d'Amico ,,
,, R. Mugliston ,,
,, W. G. Watt ,,
,, C. L. Ievers ,,
,, E. M. Condy ,,
,, R. G. Ball ,,

The following Officers served with the Cameroons Expeditionary Force in 1914:—

Dr. W. W. Claridge.
,, J. M. O'Brien.
,, G. de P. d'Amico.
,, W. G. Watt.
,, W. Telfer.
,, R. G. Ball.
,, J. I. Baëza.

HEALTH OF EUROPEAN STAFF.

The health of the European Staff must be considered satisfactory. The only serious cases of illness amongst them were: Dysentery (1) and blackwater fever (1).

The two deaths referred to above were unconnected with the climate.

EUROPEAN NURSES.

The Staff remained the same, consisting of three Senior Nurses—permanent Staff—and six Nurses serving under the usual conditions. The question of the provision of new quarters for them at Seccondee did not take definite shape during the year, although it was a very pressing need.

The work accomplished by them has left nothing to be desired, and the condition of the Hospitals in which they worked was most satisfactory.

Miss S. Adair was placed on the permanent Staff during the year.

NATIVE STAFF.

I can report favourably on the work and conduct of the Native Dispensing and Nursing Staff.

The difficulty of getting suitable Nurses to complete their training still obtains.

The restraint and discipline which a Nurse must necessarily undergo does not appeal to the Native, and he is only too keen to resign on the least pretext.

The full strength, which was maintained, was as follows:—

* 1	Chief Dispenser.
* 4	1st Class Dispensers.
*10	2nd Class Dispensers.
*10	3rd Class Dispensers.
16	Dispenser Pupils.
* 6	Nurses—2nd Class.
*24	Nurses—3rd Class.
22	Nurses in Training.

CLERICAL STAFF.

The Clerical Staff have been kept working at high pressure, as the correspondence has increased very much of late. A proper system of indexing and registering papers was introduced in the latter half of the year, which has facilitated the work generally.

Mr. S. G. Ricketts, 1st Grade Clerk, was promoted to be Chief Clerk on January 1st, 1914, but did not live long to enjoy his promotion, as he died rather suddenly on April 10th.

He joined the Department in 1895, and had nearly 19 years' service in it.

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* Dispensers and Nurses came under the Scheme for re-organization, etc., of the Clerical and Native Subordinate Services on January 1st of this year.

He was succeeded by Mr. S. H. Brew, late Chief Clerk in the Colonial Secretary's Office.

Mr. Brew has proved a very valuable officer to the Department.

The full strength, which was maintained, was as follows :—

1 Chief Clerk.
1 1st Class Clerk.
4 2nd Class Clerks.
5 3rd Class Clerks.
2 Probationers.
3 Temporary Clerks.
1 Messenger.

General Store.

1 Storekeeper.
1 Assistant Storekeeper.

FINANCIAL.

(*a*) Statement of Revenue for the year 1914.

Hospital and Dispensary fees	£1,534	12	8
Sale of drugs	144	8	0
Sale of medical comforts	44	7	11
Total ...	£1,723	8	7

(*b*) Statement of Expenditure for the year 1914.

	Estimates 1914.			Actual Expenditure 1914.		
Medical Department—						
Personal Emoluments	£43,130	0	0	£39,375	9	4
Sanitary Branch—						
Personal Emoluments	12,109	0	0	9,469	4	0
Totals ...	£55,239	0	0	£48,844	13	4

II.—PUBLIC HEALTH.

(*a*) GENERAL REMARKS.

The Registrar of Births and Deaths has already submitted his Report on Vital Statistics for those areas of the Colony where Ordinance No. 3 of 1912 applies, and I wish to point out, as I did in my Report for 1913, that the deaths recorded in this Report are only those which occurred among patients treated by the Government Medical Officers in the public institutions.

During the year under review the general health of the Colony, Ashanti and the Northern Territories, so far as the returns available show, remained about the same. The principal factors to be taken into account are the causes of death and invaliding.

These are clearly shown in the various tables under this heading.

(i.) GENERAL DISEASES.

Beri-Beri.—There is a marked decrease in the number of cases of this disease and there was not a single death.

	1912.	1913.	1914.
Cases	94	114	67
Deaths	8	15	Nil

RHEUMATIC FEVER AND RHEUMATISM.

Formerly all cases were unfortunately returned under the heading "Rheumatic Fever."

This year rheumatic fever proper has been differentiated from the subacute and chronic cases.

Rheumatic fever	13
Rheumatism	3,029

(ii.) COMMUNICABLE DISEASES.

Mosquito- or Insect-borne.

Malaria.—This mosquito-borne disease still keeps its place at the head of the list.

	1912.	1913.	1914.
Cases	2,268	2,565	2,712
Deaths	5	0	5

From the above figures it would appear that malaria is on the increase, but on reference to Table VI. it will be observed that there were 1,570 cases "unclassified," or those in which a positive diagnosis was not arrived at, but which probably reacted to malarial treatment.

Unclassified fevers are not confined to the tropics.

The positive diagnosis was established by microscopic examination in 1,142 cases.

Unfortunately, owing to unforeseen circumstances, the ranks of my staff were depleted, and figures showing the positive cases separately in Europeans and Natives were not possible.

The Pathologist reports that in the cases examined by him at the Accra Laboratory he found the percentage as follows:—

Europeans	32·8 per cent.
Natives	21·4 ,, ,,

Blackwater Fever.—Elsewhere the cases which occurred during the year have been reported in detail, so I do not propose to offer many remarks here.

	1912.	1913.	1914.
Cases	13	21	21
Deaths	6	7	6

Of the cases in 1914, 8 were officials (one fatal), 12 non-officials (5 fatal), and 1 a native.

It is satisfactory to note that there is a declining mortality.

Yellow Fever.—As in the case of blackwater fever, full reports have been submitted already on the cases which occurred in the year under review.

There was a decline of one in numbers.

Saltpond revived its reputation of years gone by, as four cases occurred there; in January (three cases) and May (one case).

The diagnosis in three cases (one European and two natives) was only arrived at in the post-mortem room.

Five cases in Natives occurred in the Northern Territories.

Yellow fever appeared for the first time, as far as I am aware, at Obuasi (Ayenin), and Somanya in the Krobo district, some 48 miles from Accra.

The following table shows the reported cases for the past three years:—

		1912.	
	Cases.	Deaths.	Mortality.
Europeans	3	3	100 per cent.
Natives	7	0	0 ,, ,,
		1913.	
	Cases.	Deaths.	Mortality.
Europeans	11	6	54·5 per cent.
Natives	9	2	22·2 ,, ,,
		1914.	
	Cases	Deaths.	Mortality.
Europeans	9	4	44·4 per cent.
Natives	10	5	50·0 ,, ,,

I cannot speak too highly of the promptitude and energy displayed by the Senior Sanitary Officer and his staff in dealing with the various outbreaks, and especially I wish to mention Saltpond.

In this case the Clayton Machine "H" Type was transported by surf boat from Cape Coast in an incredibly short space of time, and was at work some few hours after having been landed.

Trypanosomiasis.—Thirteen cases were under treatment, and of these 5 died.

Pappataci Fever.—No cases.

Plague.—No cases.

Relapsing Fever.—No cases,

Infectious or Epidemic Diseases.

Small-pox.—It is very gratifying to be able to report that only 23 cases of small-pox came under notice in the Colony and its Dependencies during the year, with only one death. There was nothing in the nature of an epidemic, the cases being sporadic.

	1912.	1913.	1914.
Cases	221 ...	168 ...	23
Deaths	33 ...	23 ...	1

Enteric Fever.—There were seven cases with one death, exactly the same as last year.

Chicken-pox.—There was a large increase in the number of cases of this highly infectious disease. In one or two instances it was found advisable to isolate the patients, but it seemed not to influence the ultimate result in the case of schools and gaols. The differential diagnosis is not at all easy in the case of the negro, and it requires considerable experience.

Dysentery.—There is a slight decline in the number of cases, and a most marked fall in the mortality, which is most gratifying.

There seems to be no doubt that the emetine treatment has been the cause of the latter.

The native seems to place more faith in the white man's medicine for this disease than he did.

	1912.	1913.	1914.
Cases	549 ...	853 ...	787
Deaths	29 ...	36 ...	15
Mortality	5·2 ...	4·2 ...	1·9

In my report for 1913 I made a kind of promise that I would as far as possible differentiate between the varieties of this disease.

Various circumstances, however, occurred to which I need not here refer, to prevent accurate figures being presented.

The consensus of opinion amongst the staff points to the fact that the amoebic variety preponderates almost altogether.

Instructions have been issued, and it is hoped reliable figures will be available for 1915.

Yaws.—There is a slight decline in the number of cases reported, probably due to certain stations being closed down owing to the depletion of the Department for expeditionary purposes.

	1912.	1913.	1914.
Cases	535 ...	634 ...	614

There was one death, a rather unusual occurrence in this country, but I am sure there are many which we know nothing about.

The disease is very prevalent, and I saw numerous cases on the little traversed road between Kintampo and Sunyani in Ashanti.

Gonorrhœa.—It will be observed that this disease is on the increase. The fact that so few females apply for treatment does not indicate that it is not common amongst them.

	1912.	1913.	1914.
Cases	698 ...	703 ...	809

Syphilis.—There would appear to be a gradual decline in the number of cases treated.

It would be idle to think that the disease is on the decrease.

	1912.	1913.	1914.
Primary	120	158	131
Secondary	426	256	258
Totals	546	414	389

Two deaths are recorded.

Tuberculosis.—I regret to say there is a marked increase in the number of cases treated, and fear that the disease is on the increase. The increase may, however, be due only to the fact that many more people suffering from it applied for treatment.

	1912.	1913.	1914.
Cases	136	141	272
Deaths	13	15	21
Mortality	9·6	10·6	7·7

Measles.—This disease is of a mild character, and more often than not goes undetected.

It is not uncommon for Europeans to get it.

	1912.	1913.	1914.
Cases	45	1	22

Whooping Cough.—A decline in the number of cases treated, and no death.

	1912.	1913.	1914.
Cases	3	95	44

HELMINTHIC DISEASES.

Ankylostomiasis.—As I have pointed out on previous occasions, the number of cases recorded here is no indication of the prevalence of the disease.

It is in my opinion much more common in this Colony than anyone supposes.

The Medical Officers of the mines, however, do not report it as of common occurrence amongst the employees.

	1912.	1913	1914.
Cases	4	22	60
Deaths	1	3	4

Taenia.—The number of cases treated remained about the same :—

	1912.	1913.	1914.
Cases	456	737	716

Trematoda.—Only three cases were under treatment :—

	1912.	1913.	1914.
Cases	48	13	3

Bilharzia.—The increase in cases reported is no doubt due to the use of the microscope in diagnosis :—

	1912.	1913.	1914.
Cases	13	17	48

Guinea-Worm.—A very interesting fact has come to light about guinea-worm amongst the prison warders who reside altogether in Accra.

The disease was very prevalent amongst them before the inauguration of the water supply, but since then it has almost disappeared. It also appears to be diminishing in the "blue" policemen stationed in Accra, but still occurs fairly frequently in the "escort" policeman, who is continually leaving headquarters on duty.

In the report for **1915** it is to be hoped some definite figures may be available.

With regard to the general population in Accra reliable figures can hardly be obtained, but with the warders and police it ought not to be difficult :—

	1912.	1913.	1914.
Cases ...	1,293 ...	1,524 ...	1,598

Ascarides.—A slight decrease :—

	1912.	1913	1914.
Cases	117 ...	198 ...	186

(*b*) EUROPEAN OFFICIALS.

TABLE SHOWING THE SICK, INVALIDING AND DEATH-RATES OF EUROPEAN OFFICIALS.

	1912.	1913.	1914.
Total number of Officials resident	586	740	768
Average number resident	510	573	646
Total number on Sick List	483	531	499
Total number of days on Sick List	2,886	3,902	4,067
Average daily number on Sick List	7	10	11
Percentage of Sick to average number of residents ...	94·0	92·0	*1·70
Average number of days on Sick List for each patient	5	7	8
Average sick time to each resident	5·65	6·80	6·29
Total number invalided	13	30	24
Percentage of Invalidings to total resident	2·21	4·05	3·12
Total deaths	8	6	11
Percentage of Deaths to total resident	1·36	0·81	1·43
Percentage of Deaths to average number resident ...	1·56	1·04	1·70

* Percentage of *Daily* Sick to average number resident.

Causes of Invaliding of European Officials.—Blackwater Fever (3), malaria, nephritis (2 each), anæmia, diabetes, phthisis, rheumatism, pyorrhœa alveolaris, colitis, fistula in ano, headache, neurasthenia, epilepsy, sciatica, optic neuritis, alcoholism, boils, Colles' fracture, trophic ulcer, phagedænic ulcer (1 each), total, 24.

Causes of Deaths of European Officials.—Subtertian malaria, heart-failure (2 each), blackwater fever, yellow fever, septicæmia, aneurism, appendicitis, accidental drowning, suicide (1 each), total 11.

Principal Diseases among European Officials.—Malaria (180), pyrexia (57), local injuries (31), gastritis (30), diarrhœa (27), dysentery (26), skin affections (12), rheumatism (11), abscesses (9), blackwater fever, debility, insolation (8 each), measles, chicken-pox, yellow fever (1 each).

Nineteen of the 26 cases of dysentery were diagnosed as amœbic by microscopic examination.

REMARKS.

We cannot congratulate ourselves on the health of the European officials during the year under review, if we look at the figures in the above table.

The percentage of invalidings to total resident shows a slight improvement; also the total number of the sick list, Twenty-one officials were 744 days on the sick list giving an average of 35·4 days each.

The shortest period spent was 24 days (2) and the longest 64 days (1), the former with dysentery (1) and eye trouble (1), and the latter with rheumatism.

It will be seen at a glance that the numbers invalided from strictly climatic causes, amongst which I include anæmia (1) and boils (1), was 7 out of 24, or 29 per cent.

Turning now to the causes of death, we find that only 4 out of the 11 recorded can be ascribed to climatic causes, or 36 per cent.

Of the remaining 7, 2 were from unforeseen causes.

(*c*) NATIVE OFFICIALS.

Table showing Sick, Invaliding and Death-Rates of Native Officials.

	1912.	1913	1914.
Total number of Officials resident	1,164	1,299	1,340
Average number resident	1,056	1,199	1,289
Total number on Sick List	502	552	488
Total number of days on Sick List	3,795	4,621	5,113
Average daily number on Sick List	10	12	14
Percentage of Sick to average number resident ...	47·0	46·0	*1·08
Average number of days on Sick List for each Patient	7	8	10
Average sick time to each resident	3·59	3·85	3·96
Total number Invalided	10	8	11
Percentage of Invalidings to total residents	0·85	0·61	0·82
Total Deaths	4	9	7
Percentage of Deaths to total residents	0·34	0·69	0·52
Percentage of Deaths to average number resident ...	0·37	0·75	0·54

* Percentage of *Daily* Sick to average number resident.

Causes of Invaliding of Native Officials.—Pulmonary tuberculosis (3), pleurisy (2), general debility, neurasthenia, spinal caries, morbus cordis, keratitis, senility (1 each), total 11.

Causes of Deaths of Native Officials.—Pneumonia (3), rheumatic fever, enteric fever, septicæmia, malignant disease of the bladder (1 each), total 7.

Remarks.

Year by year the figures for the Native officials vary very slightly.

There is nothing special to note about the invalidings and deaths, except that one of the latter was due to enteric fever.

(*d*) GENERAL EUROPEAN POPULATION.

(i.) Government Officials ...	768
(ii.) Employés of Trading Firms ...	733
(iii.) Employés of Mining Companies	1,020
(iv.) Missionaries	124
	2,645

TABLE SHOWING THE SICK, INVALIDING AND DEATH-RATES OF NON-OFFICIALS.

How employed.	Number.	Deaths.	Invalidings.	Death-rate per cent.	Invaliding rate per cent.
1912.					
Merchants	668	7	24	1·04	3·59
Mining Companies ...	953	11	35	1·15	3·67
Missionaries	160	2	3	1·25	1·87
Total	1,781	20	62	1·12	3·48
1913.					
Merchants	796	7	43	0·87	5·74
Mining Companies ...	928	5	37	0·53	3·98
Missionaries	126	4	2	3·17	1·62
Total	1,850	16	82	0·86	4·55
1914.					
Merchants	733	9	24	1·22	3·27
Mining Campanies ...	1,020	13	44	1·27	4·31
Missionaries	124	—	2	—	1·61
Totals	1,877	22	70	1·17	3·72

Causes of Invaliding of European Non-Officials.—Pulmonary tuberculosis (7), anæmia (6), malaria (5), blackwater fever, gastritis, appendicitis (4 each), neurasthenia, general debility, syphilis, local injuries (3 each), pneumonia, enteric fever, yellow fever, mental debility (2 each), asthma, pneumonokoniosis, pyorrhœa alveolaris, colitis, dysentery, peritonitis, liver abscess, enlarged spleen, malarial cachexia, low fever, cerebral hæmorrhage, paraplegia, intracranial growth, melancholia, religious mania, hypochondria, nephritis, morbus cordis, rheumatic teno-synovitis, gluteal abscess (1 each), total 70.

Causes of Deaths of European Non-Officials.—Blackwater fever (5), yellow fever (3), bronchitis, gun-shot wounds (2 each), pericarditis, morbus cordis, heart-failure, pneumonokoniosis, hæmatemesis, diabetes, meningitis, heat-stroke, cyanide poisoning, suicide (1 each), total 22.

REMARKS.

The above figures are obtained through the Medical Officers of districts, from the Managers of the various Trading and Mining Companies and Missionary Societies.

There is a slight increase in the European non-official population, and the decline in the merchants must be ascribed to the number of Germans who left the Colony when war broke out.

Quite large numbers of European non-officials land in this Colony seeking employment, whose number and whereabouts can not be ascertained unless they obtain permanent employment.

The death rate, it will be observed, has risen slightly, but the invaliding rate has declined.

The invaliding rate from climatic causes, including anæmia (6), neurasthenia (3), general debility (3), low fever (1) is just 40 per cent., and the death rate from the same causes works out at the same figure.

European Mortality and Invaliding Rate for 1914.

Total Strength.	Deaths.	Invalidings.	Death-rate per 1,000.	Invaliding rate per 1,000.
Official ... 768	11	24	14·32	31·25
Non Official ... 1,877	22	70	11·72	37·29
Totals ... 2,645	33	94	12·47	35·53

(*e*) GENERAL NATIVE POPULATION.

Such statistics are not available, except for a few large towns, and cannot be until registration becomes general.

Senior Sanitary Officer's Office,
Accra,
27*th April*, 1915.

Sir,

I have the honour to send you the sanitary portion of the Medical and Sanitary Report for the year 1914. In doing so I desire to acknowledge the help given me by Dr. Parsons, Junior Sanitary Officer, in its preparation; it is due to his help, both in the body of the report and in the compilation of the statistics, that I have been able to present the report so soon after my return from leave.

Once more, I regret the somewhat belated appearance of this section of your Annual Report which deals with public health and sanitary matters, and I trust that in saying this you will acquit me of any mere *façon de parler*.

A report which deals technically and in detail with the sanitary conditions and improvements that obtain throughout the Colony and its Dependencies cannot be elaborated in the central office without reference to the many scattered stations, from some of which the reports are unavoidably late in arriving.

Also, the routine work of the office gets heavier each year, while professional matters cannot be dealt with by anyone but the single handed Senior Sanitary Officer or his *locum tenens*.

In connection with the report I forward the following tables, etc. :—

Table iv.—Summary of Sanitary Routine Work in various stations in the Colony, Ashanti and the Northern Territories. (In future it is proposed to confine the statistics of this table to the towns of Accra, Seccondee, Cape Coast and Coomassie.

Table viii.—Showing Estimates in connection with Sanitation 1914.

Table ix.—Showing Annual Return of Anti-Mosquito work.

Table x.—Showing Results of Examination of Blood Smears taken at the Slaughter Houses of the Colony and its Protectorates.

Table xi.—Showing Results of Examination of Fæces of Hospital patients and prisoners.

Table xii.—Showing Results of Spleen Examinations.

Table xiii.—Showing average prison area, cell capacity and ventilation area per prisoner.

Table xiv.—Showing Prosecutions for Sanitary Offences and Fines imposed.

Appendix No. 1.—List of Sanitary Improvements carried out in 1914. (Extracted from the Senior Sanitary Engineer's Report for 1914.)

Appendix No. 2.—Report on the Teaching of Hygiene in Schools of the Gold Coast Colony by P. Mayall, Esq., Acting Director of Education.

Appendix No. 3.—Return of Scavengers and Labourers employed by the Sanitary Branch during the year 1914.

Appendix No. 4.—Return of Malarial Fever, Blackwater Fever, Yellow Fever, Filariasis and Dengue, during the year from 1st January to 31st December, 1914.

I have the honour to be,

Sir,

Your obedient Servant,

D. ALEXANDER,

Senior Sanitary Officer.

The Honourable
The Principal Medical Officer
Victoriaborg, Accra.

III.—REPORT ON SANITATION, 1914.

A.—GENERAL REVIEW OF WORK DONE, LAWS PASSED, AND PROGRESS MADE.

(i.)—ADMINISTRATIVE.

(1) STAFF.

The Sanitary Staff during the year was constituted as follows :—

(a) *European* :—

The Senior Sanitary Officer.
The Junior Sanitary Officer.
Six Medical Officers of Health.
Six European Sanitary Inspectors.

The Senior Sanitary Officer is also Registrar of Births and Deaths under Ordinance No. 3 of 1912.

The following changes took place during the year :—

Dr. G. C. Walker, Junior Sanitary Officer, retired on pension on 13th January, 1914.

Dr. A. C. Parsons (Medical Officer, Northern Nigeria) was appointed Junior Sanitary Officer on the 27th March, 1914, vice Dr. G. C. Walker, retired. He arrived in the Colony on the 10th June, 1914.

Drs. M. B. Hay and J. B. Alexander were appointed Medical Officers of Health 1st January, 1914. (The former was lent to the Lords Commissioners of the Admiralty from the 7th of August, 1914.)

Mr. A. W. Mister was appointed European Sanitary Inspector, 7th October, 1914; he arrived in the Colony on the 21st October.

Dr. T. H. Dugon acted as Medical Officer of Health, Cape Coast, in addition to his medical duties, from 1st January to 31st March, 1914.

Dr. Watt acted as Medical Officer of Health, Coomassie, from 26th May to 8th August, 1914.

Dr. J. C. S. McDouall acted as Medical Officer of Health, Seccondee, from 24th April to 20th October, 1914.

Dr. J. Donnelly acted as Medical Officer of Health, Cape Coast, from 1st April to 31st December, 1914.

Twenty-five days (as against 30 in 1913) were lost during the year owing to illness among the European staff.

(b) *Native Sanitary Staff*—

1 Sanitary Superintendent (post vacant).
3 First Class Sanitary Inspectors (2 West Indians).
10 Second Class Sanitary Inspectors.
32 Third Class Sanitary Inspectors.
2 Female Sanitary Inspectors.
1 Disinfector Mechanic.
6 Contagious Diseases Hospital Attendants.

During the year 25 new appointments were made, 1 official retired and 6 were dismissed.

At the end of the year the Native Sanitary Inspectors were stationed as follows :—

> Mr. C. M. G. Hoyte (West Indian), 1st Class Sanitary Inspector, and Mr. J. B. Bannister, 1st Class Sanitary Inspector, at Accra; Mr. D. McNeil Stewart (West Indian), 1st Class Sanitary Inspector, in charge of the Cocoa District of Agona (Winnebah); 21 Sanitary Inspectors at Accra (including those undergoing training); 2 at Seccondee ; 3 in the Akwapim District; 3 in the Northern Territories; 2 at Coomassie; 1 each at Tarquah, Axim, Elmina, Winnebah, Saltpond, Appam, Quittah, Weshiang and Oblogo, Kpong, Akuse, Addah. One of the 2 female Sanitary Inspectors was stationed at Accra, the other at Cape Coast.

Eighty-four days' service (as against 166 days in 1913) were lost during the year on account of ill-health among the Native staff.

(c) *Clerical Staff*—

1 First Class Clerk.

1 Second Class Clerk.

3 Third Class Clerks.

In addition to the ordinary routine work of the Sanitary Branch, the following is a list of services actually rendered by the European and Native staff in connection with the military situation that arose early in August :—

> Dr. D. Alexander, Senior Sanitary Officer, was placed in civil charge of the European prisoners of war, Accra, on 9th August, 1914, and supervised the fresh meat and fresh fish supplies under the Director of Supplies.
>
> Dr. A. C. Parsons, Junior Sanitary Officer, was enrolled in the Coomassie European Volunteer Force on 10th August, 1914, and was appointed Surgeon-Captain in the Gold Coast Volunteers on 8th March, 1915, with effect from 16th December, 1914.
>
> Dr. H. O'Hara May, Medical Officer of Health, Accra, joined the Togoland Field Force and left for Lome 9th August, 1914, returning 10th September, 1914.
>
> Dr. M. B. Hay, Medical Officer of Health, was seconded for service with the Navy.
>
> Mr. G. S. Rix, European Sanitary Inspector, was detailed for duty on s.s. "Akassa" (conveying German prisoners of war), which left Accra on 27th November, 1914.
>
> Mr. H. Yeoman, European Sanitary Inspector, Instructor to Volunteer Force, Coomassie. On duty with German prisoners of war, s.s. "Akassa."
>
> Mr. H. Williams, European Sanitary Inspector, whilst on leave, was allowed to re-enlist in the Army.
>
> Native Sanitary Inspector V. T. Massey acted as a dresser throughout the Togoland operations, and on the cessation of hostilities in that Colony he proceeded to the Cameroons in the same capacity. He left Accra 11th August, 1914.
>
> Native Sanitary Inspector J. Fianu acted as Chief Sanitary Inspector in Lome during the military operations in Togoland. He left Quittah on 9th August, 1914, and returned 9th October, 1914.

Native Sanitary Inspector N. H. Lamptey left Addah on 8th August, 1914, to join the Togoland Field Force as dresser, and when operations were over in this Colony he proceeded to the Cameroons in the same capacity.

The staff also comprised the following rank and file of the Gold Coast Volunteers :—

Mr. J. E. A. Cole, 3rd Class Native Sanitary Inspector (Colour-Sergeant).

Mr. E. T. Okoe, 3rd Class Clerk (Private).

Mr. S. Q. Botchwey, 3rd Class Clerk (Private).

(2) ESTIMATES.

The amount of money set apart for Sanitation for the year was £54,104, which was distributed as follows :—

	£
Colony	42,662
Ashanti	9,946
Northern Territories	1,496
	£54,104

This amount shows an increase of £10,282 as compared with the previous year. The chief items of expenditure will be seen in Table VIII.

The sum of £37,240 was set aside for Sanitary Improvements from the Public Works Extraordinary Vote, as against £41,350 in 1913, and in addition the sum of £916 was voted under Special Warrants. Of the total sum of £38,156, £29,798 was actually expended.

The chief Sanitary Improvements effected by the Public Works Department during the year are tabulated in Appendix No. 1.

(3) ORDINANCES, ORDERS, ETC., 1914.

As far as Sanitary legislation is concerned no Ordinances were passed in 1914, but a number of Orders were made having local reference only.

(4) TOURS OF INSPECTION.

There is no question but that tours of inspection by Sanitary Officers are of inestimable advantage, and so far during the year under discussion, despite the disturbing influence of the war, quite a satisfactory amount of inspection work has been carried out by the Sanitary Officials. Apart, too, from the invaluable gains that accrue to the Head Office as the result of obtaining first hand experience of the "provinces," it is also true, I think, that such tours are appreciated by the various Medical Officers of Health and other Medical Officers acting as Health Officers. Good work can be appreciated and applauded on the spot; difficulties tend to dissolve when things can be discussed *vis-a-vis*, and there is engendered, I sincerely hope, an increased sympathy between the Sanitary nerve centre at Accra and the terminal endings in the provinces.

(a) *Tours by the Senior Sanitary Officer.*

The Senior Sanitary Officer left Accra on 16th January, 1914, for Saltpond, to investigate the outbreak of yellow fever there. Advantage was taken of this emergency call to inspect the other coast towns in the Central

Province, and the towns in the Cocoa District behind Winnebah. Later, on the 10th April, he proceeded to Seccondee, and there investigated several important matters connected with the public health of that town. Coomassie was visited in this tour, and the various stations on the Seccondee-Coomassie line with their attendant villages thoroughly inspected and reported on. During the same tour Dixcove, Adjuah and other coast villages were visited.

(b) *Tours by the Junior Sanitary Officer.*

On 19th June Dr. Parsons proceeded to Nsawam and inspected various towns and villages along the Accra-Akwapim Railway line. On 26th June he left Accra on a tour of inspection of the Eastern Province, and during this round most of the important centres were visited. An unofficial call was made upon Lome, where, as a flying visitor, every opportunity was afforded him of seeing things of sanitary interest.

On the 21st July Dr. Parsons proceeded westward, and was away two months, during which time he acted for a period as Medical Officer of Health, Coomassie. Among the matters which met with special attention on this tour were the investigation of various suggested sources of a pipe borne water supply for Coomassie; the question of the Segregation Area at Winnebah; the problem of Essikados village at Seccondee. In all some 30 towns and villages were visited and reported upon during this tour.

During October the Accra Water Works at Weshiang were twice visited by the Junior Sanitary Officer, and on the second occasion the village of Joma was the special object for investigation, since it was suggested by Professor Simpson that this village should be moved further away from the River Densu as a precautionary measure against pollution of the stream. Investigation of the actual circumstances at Joma, however, showed that there was little possibility of this particular village exerting, *per se*, any harmful effect upon the water supply.

In December the following places were visited by the Junior Sanitary Officer, accompanied by the Pathologist: Aburi, Teimang, Dodowah, Somanya, Pram Pram, Akuse, Kpong, etc.

(c) *Tours by Medical Officers of Health.*

As representing the Senior Sanitary Officer, Dr. H. O'Hara May, Medical Officer of Health, Accra, accompanied by the Superintending Sanitary Engineer, Mr. Keast, proceeded on 15th April to Koforidua for the purpose of fixing sites for European quarters and reporting in detail upon the town planning of the new township.

Drs. Lorena and McDouall, who between them carried out the duties of Medical Officer of Health, Seccondee, during the year, regularly visited the seaport towns and villages in the district, and 15 journeys in all were made.

The Medical Officer of Health, Coomassie, has not a large visiting district, but eight journeys down the line were undertaken for the purpose of inspecting Bekwai, Eduadin and Obuasi.

The Medical Officer of Health, Cape Coast, periodically visited Elmina and the other smaller villages on either side of Cape Coast.

Dr. J. B. Alexander, in November, conducted a systematic inspection of the Mining Districts in the Colony and Ashanti, and has reported fully upon the various conditions existing in the eight mining centres that he visited. Every facility for a thorough scrutiny was afforded Dr. Alexander by all the various Managers, whose courtesy in the matter was much appreciated.

(d) *Tours by Medical Officers.*

Akwapim District.—It may be said of the Medical Officer in charge of the important cocoa towns, and other places in the district, that he is always on the move; and to Dr. Wade, no less than to his predecessor Dr. Tighe, infinite credit, I think, is due. With the extension of the line to Koforidua, travelling has become easier, but the district generally is one that calls for special qualities in the case of the Medical Officer in charge.

Akuse District.—This is another station where a good deal of travelling falls to the lot of the Medical Officer, and during the year Dr. Palmer reports that approximately 50 small tours of inspection have been conducted in the district by the various Medical Officers who have been stationed at Akuse.

Winnebah District.—The Medical Officer stationed at Winnebah has under his care the towns of Mumford, Appam, Winnebah and Baraku on the coast line, and the rapidly rising towns in the important cocoa district behind Winnebah. These were visited as often as possible, and supervision exercised over the work of the 1st Class Sanitary Inspector stationed there.

In addition to the inspection tours mentioned above, all the Medical Officers have, whenever possible, paid visits to the more important places in their district, and speaking generally I think that sanitary interests receive very careful attention from the district and station Medical Officers, but I hazard the suggestion that it would be more profitable if the Administrative and Medical Officers could more frequently "hunt in couples" on tours of sanitary inspection.

(e) *Tours by Native Sanitary Inspectors.*

Good work has been done by many of the Native Sanitary Inspectors who are stationed in districts where constant travelling is a *sine quâ non*. Special reference may, perhaps, be made to Mr. Stewart's work in the cocoa towns of the Agona District.

(5) SANITARY PROGRESS AND CONDITIONS IN THE CHIEF TOWNS.

THE COLONY.

Eastern Province.

Accra.

The installation of a pipe-borne water supply early in the year, and the rapid growth of the Segregation Area for European Officials are the two most important features of Accra's progress during 1914.

The postponement of the Sewage Scheme is a serious set back, more especially from the fact that the pipe-borne water supply brings with it various new problems in drainage that cannot be well solved apart from a proper system of sewers.

A new slaughter house is in the making, and prominent among public buildings nearing completion are the General Post Office, Secretariat Offices, Police Station and European Hospital.

There has been general sanitary progress in most directions. Good class houses are being erected in Riponsville and Adabraka, but the congestion and overcrowding among the poor districts of James Town and Ussher Town are problems still awaiting solution.

Two cases of yellow fever occurred during the year; the patients were Natives, and both died.

Akuse.

The sanitary conditions of this station are gradually improving, though nothing but palliative measures are possible in the case of the low-lying swamps that surround the village.

Good work has been done in laying down Bahama grass, and as a result the station has a very tidy and pleasing appearance. A certain number of culverts have been put into the roads, and a new slaughter house and Sanitary Office have been built.

Somanya.

This Krobo town has lost much of its importance since the railway tapped the Cocoa District.

A great number of its houses seem to be unoccupied, and apart from the erection of Police Barracks and an incinerator the sanitary progress of Somanya has not been very marked.

Kpong.

Very little, if any, sanitary progress can be placed to the credit of Kpong.

Addah.

Addah Beach Town has maintained its reputation for sanitary progress.

Dr. Palmer's scheme for replacing eaves gutters by storm boards is being inaugurated at this station.

The Hospital quarters have been improved by the addition of a waiting room and dispenser's quarters, and some minor improvements have also taken place at the Gaol.

Quittah.

By vice of its position no very radical sanitary progress is possible at Quittah. Mention must be made, however, of a very real improvement of the important market place: the Fia has personally carried out some very useful work whereby the market square has been raised and reclaimed at the lagoon end.

Preliminary steps have been taken with regard to the acquisition of the crowded district (known as Alata) which adjoins the neighbourhood of the European quarters. The opening up of this district, however, is but a "pis aller" as far as segregation is concerned, for the Europeans in their present habitat can never be really segregated.

Among sanitary improvements may be mentioned the construction of a Contagious Diseases Hospital, latrines and dustbins. Three tanks have been repaired, and all wells have been protected and mosquito-proofed. It is in the matter of a better water supply for natives that improvement is chiefly required at Quittah. The Hausa Zongo here is well laid out and well kept.

Awunaga.

This little seaside village, west of Quittah, deserves mention because its chief (the Fia mentioned under Quittah) has given practical proof of a spontaneous desire to lay out his village on approved lines.

Pram Pram.

This small sea town is left very much to itself nowadays, but its sanitary condition is not as bad as it is generally painted.

Dodowah.

Commercially, Dodowah is on the wane, but it occupies an important position as a road junction, and the year under review has witnessed the construction of a fine rest house, which occupies a very commanding position to the north of the town. Three market sheds have also been built, and when the market is removed to its new site the main streets of Dodowah deserve attention. The collection and disposal of refuse is well carried out in this town.

Aburi.

Among other improvements carried out at the Sanatorium may be mentioned the erection of two new water tanks. One new "B" type bungalow has been completed during the year, and the public latrine accommodation in the gardens has been increased.

Mampong.

Not all the good things intended for Mampong—as the future headquarters of the District Commissioner for this district—have come to pass. One "B" type bungalow, however, has been completed, and a court house is in progress of construction.

Adawso.

The Police Barracks and the Market are the two concerns in Adawso which have chiefly received attention during the year.

The town is a fairly clean one, but it suffers considerably in the rains from wash-outs.

Koforidua.

The railway line to Koforidua was opened on 15th February, 1915, and as a consequence this cocoa centre is likely to increase very rapidly in size.

The land near the railway station has been surveyed and cleared preparatory to the extension; an excellent site for Europeans, duly segregated, has been marked out and cleared.

Very considerable progress has been made by the Railway Authorities, and as a result the insanitary conditions inseparable from pioneer work are disappearing.

In the old town excellent work has been done in reclaiming the marsh near the Wesleyan School; the water supply has also been improved.

New Mangoase.

By reason of its position the railway could not go to Old Mangoase, so a New Mangoase came to the railway, and is making the best of a bad position. Already, however, it is suffering from "growing pains," and its development on right lines will need very careful guidance. It is a most difficult site to lay out owing to the contours of the ground, but streets of sorts are gradually appearing, though they cannot keep pace with the houses that are going up.

In the native town the condition of the central swamp has certainly been improved: an incinerator has been partially built, and a site selected for Police Barracks. The need for a properly laid out Hausa settlement is pressing.

More striking progress has been made in the European quarter, where a good deal of clearing and general sanitary improvement has taken place. A new type rest house was practically completed in the year.

Nsawam.

This town, the first of any importance on the Accra-Koforidua line, shows steady progress.

A much better type of house is being erected; the streets have been much improved, and some 200 yards of concrete drains have been laid. The Police Barracks and Rest House have undergone repairs, but the market shed seems to hang fire somewhat. Scavenging is well done, and the filling in of a large swamp with the town's refuse is an excellent piece of work. Wash-outs and the undermining of buildings, etc., by storm waters are the serious problems in Nsawam.

Sackie Kroom.

This little town, about half a mile from Nsawam and to the west of the railway line, is deserving of mention because of the progressive policy of its Chief in matters appertaining to the sanitation of his town and the public health of its inhabitants. It is a pleasure to record the instance of a local Chief spontaneously "setting his house in order," and it is to be hoped that the number of such cases will increase in the future.

Apedwa.

Here again it is worth mentioning that the progress made in this town is due largely to the efforts of its Chief, unaided by any Government native employees.

Kibbi.

The sanitary improvement which has undoubtedly taken place in Kibbi "Heathen Town" can, certainly in part, be attributed to the Omanhene. In general tidiness and cleanliness the Christian quarter compares unfavourably with the so-called "Heathen Town."

The European officials live in the site once occupied by a busy mining camp, but the housing conditions are not altogether satisfactory.

The water supply has been improved during the year.

Kibbi District.

It is gratifying to learn that a start has been made in erecting rest houses outside the more important halting places in the district.

Kwahu District.

On the Kwahu plateau there exists a circular congeries of towns over whose sanitary well-being the District Commissioner keeps careful watch. Reports from this District seem to show that there is a sympathetic co-operation between the administrator and his people, and much good work has been done, especially in the matter of checking nuisances from swine and in improving the water supply.

CENTRAL PROVINCE.

Winnebah.

In this town our efforts have been mostly concerned with providing suitable quarters for the European officials, and in securing for them a proper measure of segregation. It has been finally decided that the reservation area for Europeans should embrace the hill upon which the old combined District Commissioner and Medical Officer's bungalow stands, and that it should extend towards the lagoon. In order to cope with a very serious shortage of quarters a native building, known as Scott's house, has been rented by the Government as a Rest House. The construction of a Contagious Diseases Hospital has been started.

The chief sanitary necessity of Winnebah is a good water supply, and after this comes the amelioration of the very insanitary conditions existing at present in Fish Town.

Saltpond.

The chief item of interest in Saltpond's record for the year is the work carried out in connection with the Segregation Area, where two houses have been erected, and more are to follow.

There is a wish on the part of some of the non-official Europeans also to live "out of town" and avail themselves of the benefit of segregation.

The outbreaks of Yellow Fever at Saltpond have been noticed elsewhere, and the Medical Officer states that among Europeans "Malarial fever has been prevalent." It has not been possible to adopt any radical measures with regard to the lagoon, but with the segregation of Europeans, and in particular the non-officials, the incidence of mosquito-borne disease should materially decline.

Among natives guinea worm is rife in the district. The Medical Officer (Dr. Dowdall) also says the same of "abdominal and hepatic complaints generally associated with deep jaundice, which the native erroneously calls 'Yellow Fever.'"

The Medical Officers who have been stationed at Saltpond have availed themselves of the new motor road which runs inland, and the sanitary condition of the bush villages along this highway is said to compare very favourably with that of the villages on the coast.

During the year a Contagious Diseases Hospital was completed.

Cape Coast.

If the progress in Cape Coast were marked by nothing more than the strides that have been made with the work in connection with the Segregation Area, there would still be reason for congratulation.

The majority of the European officials are now housed upon the comparatively salubrious heights behind the town, and it is to be hoped that in the near future accommodation for all European Officials, and especially Second Class Officials, will be found in this reservation area.

During the year a Sanitary Engineer was sent to Cape Coast in order to give practical effect to Dr. Beringer's scheme for relieving the very congested parts of Cape Coast: preliminary surveys were made and sites for dispossessed persons were suggested. Further work, however, has been dropped for lack of funds.

A good deal of clearing and grass planting has been carried on during the year, and a new cemetery has been prepared and made ready for use.

The water supply still remains a serious problem in Cape Coast: the rainfall for the year was only 27·08 ins. Dr. Donnelly, the Acting Medical Officer of Health, in his report states that "the supply of water for domestic purposes has been scanty." As pointed out in last year's report, nothing short of a pipe-borne water supply will really meet the needs of Cape Coast.

Elmina.

Elmina seems to be the Cinderella of the coast towns, and there is about her an old world charm and modesty that one does not find in her more ostentatious and materially minded sister towns.

Continuous medical supervision has not been possible in Elmina, so that not much sanitary progress can be reported. Moreover, according to the Medical Officer of Health, Cape Coast, "the town consists of old men, women and children; all the able-bodied male adults drift elsewhere." There is no doubt that a good deal of money could be spent on sanitary improvements at Elmina, but the relative unimportance of the little town and the small number of resident European Officials (one or two at most) tend to keep it in the background. The quarters occupied by the European Officials are not good.

WESTERN PROVINCE.

Seccondee.

This town, in particular, bristles with sanitary problems which are largely connected with the housing of Europeans and natives, and arrangements for securing segregation for the European Officials.

The most pressing problem, perhaps, is that connected with the village of Essikados and its removal to some other site, at present undetermined.

The model village of Ekuassie has been practically completed, but apparently no exodus thither has taken place, owing to the difficulty of crossing the intervening lagoon : it is proposed, therefore, during 1915, to build a bridge across the lagoon.

Of Kroo Town the Medical Officer of Health writes :—"Great progress has been made with respect to this settlement. Thirteen new concrete houses have been built, and are at present occupied by the Kroo boys employed by the Town Council and several firms." There is no doubt, I think, that such a location for Kroo boys who are imported from other Colonies is a very important step, and should prove a great help in checking the spread of infectious diseases which may be introduced by this form of imported labour.

A good deal of most necessary work in connection with the drainage scheme has been done, and especially with regard to the relief drain.

Continued progress is reported in the matter of bush clearing and the laying down of Dhub grass, and the Medical Officer of Health describes the general sanitary condition of the town as very satisfactory.

No epidemic disease has occurred during the year, but there has been a good deal of sickness among Europeans in the town and district. Of the 6 deaths that have occurred in Seccondee, however, only 2 were residents; the remaining 4 were sent in from up country. The Senior Medical Officer, Seccondee, considered that the sickness rate for the Water Works camp at Inchaban was high : it is to be hoped that with increased attention to the various sources of mosquito production inseparable from a camp so closely associated with collections of water, the health of the community will improve.

Progress has taken place in connection with the Water Works at Inchaban, and there has been a good deal of improvement in the housing conditions of the resident engineers. Excavation work has been the main feature as far as the filter beds are concerned, but the pump house has been practically completed and two-thirds of the "main" have been laid down.

Chama.

The Medical Officer of Health, Seccondee, considers that the sanitary condition of this town is slowly advancing, and he notes a great improvement in the matter of screening barrels and other water collecting receptacles. The pan system has been introduced, but the beach is still a popular resort, and is also used for dumping refuse. The water supply is receiving attention, and extra wells are being provided.

Ajuah.

This town requires, and has received during the year, constant supervision, otherwise it lapses into an insanitary condition. An attempt has been made to get the people to abandon the practice of misusing the beach and use pit latrines instead.

The water supply is poor here, and arrangements are being made for the provision of wells.

Dixcove.

Much of what is written above is true also of Dixcove, which town, however, is rather better off for water than Ajuah. The two lagoons need radical treatment, but it has not been possible to give it, for financial reasons.

Coast Villages.

From Seccondee to Axim there stretches a chain of villages inhabited by fisher folk. These villages, carefully selected no doubt with reference to the main industry of their inhabitants, are interesting as showing us now the conditions that probably once existed (and of which traces are still found) in other coast villages that have now attained to the dignity of a municipality.

Sanitary evolution is only just beginning in these little villages, and one must go slowly and patiently with them. During the year they have received a good deal of attention from the Administrative and Medical Departments, and in his report on these villages the Junior Sanitary Officer drew attention to the following needs :—

1. Allocation and limitation of numbers of dumping grounds sufficiently removed from the living zone ; burning of rubbish where possible.
2. Pit latrines, in order to prevent the misuse of the beach.
3. More bush clearing behind the villages.
4. Protection of barrels and other water preserving receptacles.
5. Simple surface drains.
6. Mitigation of pig nuisance.

Axim.

The chief object that has been achieved in Axim is the provision of a segregation area upon which new bungalows, in addition to a very attractive European Hospital, have been built. In the past there has been little or no attempt at segregation in Axim, and the death of a European Official from yellow fever in the month of July, 1914, served as a reminder of the danger of living among the native population. The quarters in which this officer contracted his fatal illness were situated in the heart of the town, and many of the rooms in the house were occupied by Natives.

A great deal of the Medical Officer's time and attention has naturally been given to the Segregation Area, but in the town itself there are not wanting signs of good work done. The Hausa Zongo is well kept; the "Village Green" behind the Castle is a very pleasant feature of the town; I think, also, that the excellent way in which the Medical Officer, Axim, has dealt with the question of disposal of night soil deserves special mention. It was found that, as in other places, it was very difficult to ensure that the dumping of night soil into the sea should be carried on without creating a nuisance. Accordingly Dr. Goodbrand discarded this method and went "back to the land." His carefully worked system of shallow trenching was one of the most encouraging things noted by the Junior Sanitary Officer during his tour in the Western Province of the Colony. Axim has its lagoon or swamp, and some day it will probably be expedient to reclaim this low-lying area.

Half Assinie.

This is the farthest outpost along the coast, and is perhaps the only coast town of any importance that has not been inspected during the year by one of the Sanitary Officers. Shortage in the staff and the exigencies of the war have resulted in Half Assinie being " shut down " as far as any continued sanitary supervision is concerned.

A public well was improved during the year, and measures were taken to prevent the wrecked steamer " Bakana " from becoming a nuisance as a breeding place for mosquitoes.

Tarquah.

This mining centre has suffered from the fact that there has been little chance of any continued sanitary policy, on account of the frequent changes in the Medical Staff rendered inevitable by the war.

However, useful work has been done in the Government Station during the year. It is very satisfactory to learn from Dr. Hamilton that " the railway swamp shows no signs of flooding since the new railway culvert was built last year, and there is every reason to believe that this bugbear of Tarquah has been finally abolished."

Much good work, indeed, has been carried out at Tarquah in connection with the surface drainage of the numerous dips and valleys in this station, and such work has been done by unskilled labour initiated and supervised by the various Medical Officers who have been stationed at Tarquah. There now remains the necessity for laying down a concrete peripheral drain in order the better to carry off the water brought by the open cut drains and to protect the wells in the neighbourhood.

There is very noticeable improvement in the clearing of bush and laying down of dhub grass in Tarquah, especially on Government Hill.

During the year steps have been taken to improve the water supply, the latrine accommodation has been increased and an incinerator built. A good deal still remains to be done at Tarquah, and one of the most urgent matters, next to the drainage system, is the removal of the Hausa settlement to a better site.

Dunkwa.

As in the case of Tarquah, there have been many unavoidable changes in the Medical Staff at Dunkwa, and it has been necessary at times to leave the station without a Medical Officer. Notwithstanding there has been very considerable progress as regards the segregation area, which has been cleared with a nice judgment and discrimination. Three new bungalows have been either completely or partially built.

The native town proper is in a transitional stage, but to it the Acting District Commissioner has evidently given much time and thought, and there are promising beginnings in the matter of drainage and town planning generally.

The scheme for the new arrangement of the Hausa and Wangara settlements has not progressed, perhaps, as rapidly as was expected.

ASHANTI.

Coomassie.

This town continues in the van of sanitary progress, and much good work has been carried out in many directions during the year. Since the last report was written the town boundaries of Coomassie have been extended so as to allow for future extension and to ensure that there will be no encroachment upon the Reservation Area for Europeans.

The Reservation Area (local name for Segregation Area) has been laid out for building sites, and to a large extent it has been grassed. One bungalow has been completed and eleven more are well in hand.

Reference is made under paragraph 25 to the prevalence of venereal disease in Coomassie and neighbourhood. The Medical Officer in his report also draws attention to the prevalence of dental caries in young children, and the high infantile mortality said to arise therefrom. It is suggested that the teeth decay because weaning does not take place until the child is three years old, and the " food necessary for the development and maintenance of milk teeth is withheld."

Dr. O'Brien in his report registers a suggestion which has already been made in connection with Accra, viz., that the care of young children and the education of native mothers are matters now ripe for consideration.

The Contagious Diseases Hospital was taken over during the year. The new slaughter-house has proved very successful, and the quality of meat has much improved as a result of being hung overnight. A new wing to the slaughter-house is badly wanted, but funds at present do not allow of the addition.

The grass covered open spaces, lawns, &c., are some of the most pleasant features of Coomassie, and not only have the existing lawns, &c., been kept in excellent condition by means of mowing, but much additional grass has been laid down.

The vegetable garden has been the means of reclaiming more swampy ground, and its produce has added considerably to the general health of the Europeans. With the absence of the troops on active service the clearing of cantonments has been a serious problem during the year; the fact, also, that the Government owns all the land in the town involves a heavy expenditure in labour.

Good work has been done in connection with draining and reclaiming the swampy areas through which the two Subin streams respectively run. An extension of the West Subin concrete drain is on the Agenda for 1915, but it is difficult to begin any permanent work as regards the East Subin until it is known definitely what is to be the course of the new railway.

During August Mr. Duff, Consulting Engineer, of the firm of Messrs. Middleton Hunter & Duff, together with members of the Waterworks Department and the Junior Sanitary Officer, went into the question of a pipe-borne water supply for Coomassie. Three possible sources were inspected, and it was eventually decided to recommend that the River Adra, where it approaches the railway some seven miles south of Coomassie, would provide the most efficient source of supply.

Obuasi.

One of the great improvements at Obuasi native town is the introduction of a pipe-borne water supply, whereby the natives can obtain their water from conveniently placed standpipes.

Useful palliative measures have been adopted with regard to reclaiming the swamp that lies below Hospital Hill, but a concrete drainage system is probably the only remedy which will avail. The town also awaits the laying down of drains and culverts.

The slaughter-house has been much improved during the year. The unusually good sanitary state in which the Obuasi Prison and Gaol are kept always attracts notice, and I think the fact is worthy of mention here.

Kintampo.

The Medical Officer reports that the general sanitary condition, both of Kintampo native town and of the Cantonments, is good.

A new bungalow for the Medical Officer was completed in November.

Sunyani.

The Medical Officer reports the fact that two new European bungalows have been completed during the year and a third is nearing completion.

The residential quarters appear to be too close to the soldiers' lines.

Two locally erected incinerators have come into being during the year, and a new well has been sunk; in addition the improvements to the stream at the foot of the hill, which were initiated by Dr. Storey in 1913, have been continued another 130 yards. This particular clearing seems very necessary in view of the prevalence of tsetse at this point. The Medical Officer, however, does not speak very reassuringly as to the help afforded by the natives in the matter of bush clearing during the rains. The absence of the troops, too, during the latter part of the year prevented the station being kept as much cleared as usual.

This station has a bad reputation for tsetse and disease-carrying flies generally, but it is fortunate in possessing Dr. Ingram, whose knowledge of blood-sucking flies is of very great value to the Health Authorities as a whole, as well as to the particular station in which he resides.

NORTHERN TERRITORIES.

Wa.

This town is nearly surrounded by a swamp, the station being situated on relatively high ground.

The spleen rate in children is said to be 40 per cent., but in his Report the Medical Officer does not mention malaria as a prevalent disease among Natives.

Mosquitoes are said to be abundant at the end of the rains in the European bungalows, and this prevalence is attributed to insufficient clearing during the rains. During November and December the cattle suffered largely from pleuro-pneumonia.

Zouaragu.

This station is situated in a thickly populated district, but the Medical Officer considers that the European quarters are not sufficiently removed from Native dwellings.

Among his remarks upon the diseases of the district the Medical Officer mentions the occurrence of a case of blackwater fever at Navarro, which is the fifth case in 8 years at this Mission Station. A case of blackwater fever in a Native soldier is also reported. Anthrax is said to be epidemic in the district, and in the Kumjara Country bilharziosis is reported to be common. Small-pox broke out during the year.

During the year two wells have been lined with masonry, and a concrete slaughter platform has been laid down. The Medical Officer also alludes to the felling of a large baobab tree which was situated close to the European bungalows. "This immense tree, old and full of holes, was a breeding place for myriads of stegomyia, and during the rains rendered the two houses referred to intolerable."

Tumu.

The health of both Europeans and natives appears to have been good in this station. The Medical Officer does not speak very highly of the habits and modes of living of the Issala people, and the house fly is said to constitute a great nuisance at the end of the rains.

No very definite sanitary progress can apparently be credited to Tumu during the year.

Bole.

"Bole is situated on the edge of an extensive anopheles-breeding swamp, and the native water supply is very bad." After this statement by the Medical Officer, Bole, it is not surprising to find that malaria (spleen index 68 per cent. of all ages under 15) and dysentery are rife.

In May, 1914, a case of yellow fever was reported by Dr. Graves, and proved fatal; in 1913 there were four cases.

There has been, and still is, apparently, insufficient segregation of Europeans in Bole; of the District Commissioner's quarters the Medical Officer writes: "The necessity to remove them to the new site remains imperative." "The new site" refers to the position upon which a new house is being built for the Medical Officer.

Among the sanitary objects that have been accomplished at Bole during the year are:—

(*a*) Clearing of an extensive area in the station, and planting this with dhub grass.

(*b*) Cutting of a large relief drain in the town.

(*c*) Draining of a swamp near the Rest House, which involved the blasting of a long drain through iron stone.

(*d*) Improvement in the native latrine system.

(6) Railways.

As foreshadowed in last year's report, the various stations on the Seccondee-Coomassie line have been visited by the Senior Sanitary Officer, and as a result various recommendations for improving and maintaining the sanitary condition of railway stations and neighbouring towns have been put forward.

The railway has set aside a certain sum of money to be spent during 1915 on sanitary matters in connection with stations, &c., and has shown in other ways a desire to ameliorate insanitary conditions inseparable from railway construction. In addition to the Sanitary Committee meeting held at different points along the Seccondee-Coomassie line, a Railway Sanitary Committee has been formed during the year at Accra, and meets monthly. The extension of the Akwapim Railway to Koforidua was opened on 15th February, and all the stations on this line have been frequently inspected during the year.

(7) Shipping.

Only as occasion requires are ships boarded by Medical Officers acting as Port Medical Officers of Health.

Thus in February, when quarantine was declared against Lagos, ships from that port were medically inspected at Gold Coast ports during such period as was considered necessary.

In response to a request contained in a despatch from the Secretary of State, special inspections of ships calling at Gold Coast ports were made early in the year by the Port Health Authorities, with a view to ascertaining the existence or otherwise of circumstances favouring the introduction of yellow fever by this sea borne traffic.

Investigations were carried out at Accra, Addah, Saltpond, Cape Coast, Elmina, Seccondee and Axim; the craft included mail steamers, coasting vessels, surf boats, deck boats and native canoes.

The result of the investigations was that the vast majority of the vessels were found to be free from mosquitoes and larvæ, and devoid of mosquito breeding places. On two ships only, namely, the "Muraji," an ocean steamer, and the "Ida," on bar duty, were mosquitoes found. Both these ships were lying off Addah at the mouth of the Volta, where the floral and meteorological conditions approximate very closely to those found in the Nigerian riverine ports.

The inspection of surf boats and the numerous craft belonging to local fishing fleets is carried on by the Health Officers as a matter of routine. It is not uncommon to find during the rains that surf boats which are laid up for repairs harbour mosquito larvæ, and special attention was paid to all boats plying between village and village during the time that Saltpond was in quarantine in January.

(ii)—PREVENTIVE MEASURES.

MOSQUITO- AND INSECT-BORNE DISEASE.

(8) Malaria and Blackwater Fever.

It would be difficult, I think, to adduce any sanitary measure of importance which, in this Colony, does not directly or indirectly help to check the incidence and spread of malaria. The improvement in the water supplies, especially in those places which have been blessed with a pipe-borne service, has undoubtedly done much to keep down the breeding of mosquitoes. Drainage and bush clearing, too, have been followed here by the same good results that have attended these operations in other tropical places.

As far as Europeans are concerned the adoption of segregation principles is of prime importance, and more particularly in such towns as Accra, Cape Coast, Saltpond, Seccondee and Axim.

In the case of natives our efforts to relieve congested quarters and the supervision of town planning schemes should bear fruit in the future.

For the present, however, the spade work of the "mosquito brigades" and the house to house inspections carried out by the Health Authorities as a whole are the measures upon which we depend most for keeping down the malarial rate among the indigenous population.

During the year under review there has been started the system of free distribution of quinine in schools in such towns where a Medical Officer is resident. It is too early to attempt any conclusions as to the results of this prophylactic measure, but since it is chiefly school children that provide opportunities for the compilation of splenic indices we shall have a ready means of determining the value of quinine prophylaxis among children.

Lastly, education is playing its part: it is enough, perhaps, if we can convince the present generation that they must not breed mosquitoes in their premises, but in the schools and elsewhere the younger members of the population are being taught the reason for the various injunctions and preventive measures.

(9) Trypanosomiasis.

(a) *Human.*—There is very little to add to what was said in last year's report on this subject. The lack of funds and the withdrawal of troops has resulted in less clearing being done in bush stations than formerly.

The segregation of officials, the initiation of extra-urban rest houses in country districts and the general improvement in housing conditions have all tended to minimise the risk of Europeans becoming infected.

In the case of natives. however, it cannot be said that much has been done to meet the added risks of dissemination due to the increased facilities with which traders and others can now travel about the country.

(b) *Cattle.*—As far as slaughter house statistics show, the infection in cows which are brought to the butchers is very heavy in some stations, and especially so in Coomassie. It is the long-horned up-country kine that are chiefly affected, and numbers of these cattle probably never reach the markets for which they were originally intended.

As regards trypanosomiasis of horses, there is reason to believe that this disease is increasing in Accra, and it is hardly a fortuitous circumstance that motor lorries are replacing draught animals; of 9 horses submitted for examination by a contractor at the end of the year all were infected with trypanosomis. The country around Accra is certainly not such as is usually associated with tsetse fly, but the fact remains that tsetse can be caught in Accra. Undoubtedly these flies have taken advantage of the travelling facilities, and come into Accra from the country by train and motors.

It is not easy to prevent these incursions, though Dr. J. J. Simpson in his Report suggested trapping at the railway station. The registration of horses, mules and donkeys has been recommended, and if the infected animals were kept segregated from the others some good would be achieved.

(10) YELLOW FEVER.

In Table I. below will be found particulars of the cases of yellow fever that have occurred during the year.

Table II. is a new feature, but since we have now five years for a retrospection, it was thought that the comparative figures for the years and districts might prove interesting.

TABLE I.

Name.	Date.	Place.	Result of illness.
N.O.T.	10/1/14	Saltpond	Death.
B.	13/1/14	,,	Recovery.
G.C.	15/1/14	,,	,,
K.W.	10/2/14	Accra (brought from New Mangoase)	Death.
M.C.	28/2/14	Accra	,,
A.	3/4/14	Quittah	,,
R.B.W.	6/5/14	Ayenim (via Obuasi)	,,
M.C.	6/5/14	,,	Recovery.
T.	11/5/14	,,	,,
K.	23/5/14	Quittah	,,
B.	30/5/14	Saltpond	,,
A.	–/5/14	Bole	Death.
K.	16/6/14	Quittah	Recovery.
C.	15/7/14	Axim	Death.
E.H.H.	16/8/14	Somanya	,,
A.M.	–/3/14	Tamale	,,
P.	24/8/14	,,	Recovery.
Cr.	–/10/14	,,	,,
Pte.	–/11/14	,,	,,

TABLE II.

Town or District.	1910.	1911.	1912.	1913.	1914.	Total.	Remarks.
ACCRA	—	8	1	8	2	19	One case brought in from Mangoase.
Christiansborg...	—	—	2	2	—	4	Suburb of Accra.
Labadi... ...	—	—	5	—	—	5	Village 3 miles from Accra.
Abokobi ...	—	—	—	2	—	2	Village 10 miles from Accra.
SOMANYA ...	—	—	—	—	1	1	
QUITTAH ...	—	—	—	2	3	5	
SALTPOND ...	—	—	—	1	4	5	
SECCONDEE ...	14	—	1	—	—	15	
AXIM	1	1	1	—	1	4	
Ayenim(OBUASI)	—	—	—	—	3	3	Mining Camp near Obuasi.
KINTAMPO(Ash.)	—	—	—	1	—	1	
BOLE (N.T.) ...	—	—	—	3	1	4	
TUMU (N.T.) ...	—	—	—	1	—	1	
TAMALE (N.T.)	—	—	—	—	4	4	
TOTAL ...	15	9	10	20	19	73	

Of the 19 cases that occurred in 1914, 9 were non-native patients, and the case mortality among them was 44·4 per cent. Among the natives the case mortality was 50 per cent.

As regards the cases credited to Accra, it is only right to mention that one case was brought in to Hospital in a dying condition from New Mangoase.

Reference to Table II. will show that yellow fever has been reported for the first time in three such widely separated places as Somanya, Ayenim and Tamale.

The patient who died at Somanya was the European representative of a trading firm who lived over his store in the centre of the native town; at the time fumigating operations were in progress Stegomyia larvæ were found on the verandah of one of the adjacent houses. Prompt measures were taken both locally and at headquarters, whence fumigating apparatus was conveyed by motor transport.

Ayenim is a mining camp near Obuasi, and its sanitary condition appears to have been far from satisfactory. On 10th May a European was reported to have died from yellow fever. The provincial Medical Officer, Ashanti, and the Medical Officer of Health, Coomassie, arrived at Ayenim on the 11th, and satisfied themselves of the correctness of the diagnosis. Another patient was also seen in hospital suffering from yellow fever, and a third European who was also ill at the time was regarded as a very suspicious case. The Medical Officer of Health, Coomassie—Dr. A. J. R. O'Brien—however, is inclined to think that the outbreak dated back to April, when a newly arrived European died before medical aid could be summoned, and under circumstances which Dr. O'Brien thought suggestive of yellow fever. It is an interesting fact, at any rate, that the two undoubted cases of yellow fever occurred in the bungalow originally occupied by the above mentioned European.

The actual camp consisted of five Europeans and three Italians with their respective servants; as previously mentioned, the camp was badly kept and Stegomyia were plentiful. The native village is half-a-mile away, but as Dr. O'Brien says, "several of the Europeans living at Ayenim had been in the habit of visiting the native village after their day's work was over, and possibly the original infection was contracted there."

The outbreak in this camp is certainly interesting, and it says a good deal, I think, for the efficacy of the preventive measures adopted that there were not more cases under the local circumstances.

Tamale.—This Northern Territory station lies at the junction of three main roads, so that it is possible the disease was introduced by travellers. Of the four natives attacked, three recovered and one died.

In connection with the incidence of yellow fever among the Europeans of the Colony two facts, which may have a casual relationship, should be brought into prominence.

(*a*) With one exception, non-officials only were attacked.

(*b*) Except in the case of Ayenim, all the European patients lived in the town and enjoyed little or no measure of segregation.

Amongst the general preventive measures against yellow fever that have actually found definite expression during the year are :—

(1) Segregation areas—*vide* Segregation.

(2) Extra-urban rest houses.

(3) Anti-mosquito measures, including in some places a pipe-borne water supply.

As regards special preventive measures each outbreak has, so to speak, produced its own anti-bodies. Thus the outbreak at Ayenim brought down the Medical Officer of Health, Coomassie, who in his turn convinced the Manager of the mine in question of the importance of sanitary reforms in this camp.

Very thorough precautions were taken at Saltpond, which was visited by the Senior Sanitary Officer and other officials from Accra and declared an infected port in January. The Sanitary Authorities received at Saltpond also the greatest assistance from the laity. The Clayton Machine at Cape Coast, which has never been on active yellow fever service in that town, undertook a sea voyage and did good work at Saltpond on arrival.

We are getting more familiar with this enemy in our midst, but such closer knowledge is not producing any contempt, but rather an increased respect. In every case the Medical Officers responsible have acted with a fine sense of responsibility, and with resolution.

(11) Filariasis.

Beyond anti-mosquito measures, which have received attention in other parts of this report, no special preventive measures are undertaken in the case of filariasis.

EPIDEMIC DISEASES.

(12) General.

No serious outbreak of epidemic disease has occurred during the year; but otherwise it may be said that in no case have any of the communicable diseases been allowed to assume epidemic characters.

There have been cases of yellow fever, sleeping sickness, enteric fever, small-pox, chicken-pox, mumps and measles during the year, but in each instance prompt measures have been taken, and the diseases in question have not spread.

It is fortunate that the majority of the large industrial and commercial centres where epidemic diseases are most likely to occur are brought within easy touch of headquarters by the telegraph system, but it is only fair to add that the local Health Authorities have risen to every occasion, and in the more serious cases have been splendidly helped by the laity.

The spread of education, the co-operation of school teachers, the closer medical scrutiny of alien immigrants and the increase in the number of isolation facilities are measures that have helped us to deal with the early detection and treatment of epidemic disease.

It should be borne in mind, however, that the increased facilities for travelling also mean increased facilities for the spread of infectious disease, and will, therefore, necessitate an extra degree of vigilance in the future.

(13) Plague.

Once more we can show a clean slate as regards this dread disease. A very interesting case occurred at Accra in December, however, when a Krooboy who had recently (seven days) been imported from up coast became suddenly ill and was brought into hospital, where he shortly died. The Medical Officer in charge, from observations during life, hazarded the diagnosis of plague, and the Pathologist isolated a bacillus that morphologically closely resembled *B. pestis.* Subsequent cultural and inoculation experiments, however, did not justify the first suspicions, and no more similar case of illness occurred among the deceased's gang. Strict anti-plague precautions were carried out so long as the diagnosis remained in doubt, and this call to arms, I think, was not only justified under the circumstances, but it also showed that the plague brigade was quite ready, and mobilised for action.

Preventive measures chiefly consist in a campaign against rats, but it must be admitted that the Sanitary Authorities derive very little help from the natives themselves in this matter. In Accra *Mus rattus* seems comparatively rare, but *Mus decumanus* and the large *Cricetomys gambianus* are common. It may be remarked that the disabilities connected with landing at the Gold Coast ports apply to rats as well as humans. Since there are no wharves, and vessels have to lie out in the roads, very few rats, I think, gain our shores from other ports. In the old and congested districts of towns like Accra, Cape Coast and Seccondee, &c., there still exist ideal conditions for the nurture and propagation of rats, and the number of these pests will not be very sensibly diminished until we have opened up these over-crowded areas and replaced the old habitations with houses more conformable to modern requirements. Unfortunately these demolition schemes are expensive, and at the present juncture cannot be attended to as thoroughly as was originally intended. The need for special Building Inspectors, to which attention was drawn in the Report for 1913, grows greater every year.

(14) Small-pox and Vaccination.

There were no serious outbreaks of small-pox during the year; sporadic cases occurred in various places, but nowhere was there anything approaching an epidemic.

In all 5,147 successful vaccinations were performed in the Colony and its Dependencies.

There is a special Vaccinator for Ashanti, and he gives the following statistics for his district :—

Total number of vaccinations = 3,444.

	Primary Vaccinations.			Re-vaccinations.		
	Successful.	Unsuccessful.	Not inspected.	Successful.	Unsuccessful.	Not inspected.
Males	1,371	297	174	304	59	3
Females	814	191	76	129	24	2
TOTAL	2,185	488	250	433	83	5

As regards the previous recommendation that there should be a special Vaccination Officer for each Province, it may be repeated that "so far nothing has been done in the matter."

(15) Enteric Fever and Cholera.

Preventive measures against these diseases are very similar in character to those exhibited in the case of dysentery. It is satisfactory to note that, despite the unusual exigencies of the year, strict vigilance has been maintained, and while no case of cholera has been noted there has been nothing in the shape of an epidemic of typhoid fever.

(16) Dysentery.

This disease in the Tropics is no respecter of persons, and Europeans and natives seem equally susceptible.

The large majority of Europeans are rightly solicitous concerning their drinking water, and in the large stations aerated waters are very largely used. Efforts are everywhere made to prevent fouling of water supplies in the country districts, but the well-known habits of the natives make it very difficult to ensure much success in this direction. It is possible that dysentery in West Africa is as much a food-borne as a water-borne disease, and that dust and flies are important transmitting agents. The mitigation of the nuisances arising from these African scourges has received close attention from the Health Authorities, and some slight success has attended these efforts.

The question of "dysentery carriers" is, I think, of some importance as regards the incidence of the disease in Europeans. Apart from the fact that native servants—whose dealings with food and water supplies are very intimate—often do not report ill when suffering from mild attacks of dysentery, there remains the possibility that these servants may be acting as dysentery carriers, and infecting the food of their masters and mistresses, who may be otherwise most careful about these matters.

(17) Other Epidemic Diseases.

The Medical Officer at Wa (Northern Territories) reports that no further cases of the disease locally called "Bungphagga" have occurred.

No case of dengue has been reported during the year, but a European Official, who devoted much of his time to travelling in the Colony, developed a somewhat obscure illness, which has since been diagnosed as Mediterranean Fever.

ENDEMIC DISEASES.

(18) Tuberculous Disease.

No specific precautions are taken against tubercular disease by the Government; but in a general way all the attempts to bring about improvement in the housing of natives may be considered as preventive measures against the tubercle bacillus.

In the mining districts where the case incidence of phthisis is comparatively high—especially among natives from the Northern Territories—there is need, I think, of special care in the housing and care of those employees who are working underground.

The question of making tubercular disease a notifiable one should, I consider, be discussed.

(19) Venereal Disease.

In the Colony and Ashanti venereal disease is undoubtedly prevalent, and to an extent which is quite inadequately represented by hospital statistics. The increasing facilities for travelling, and the cosmopolitan character of the large towns and industrial centres, probably tend to disseminate all forms of venereal disease.

In commenting upon the health of Coomassie, Dr. A. J. R. O'Brien, the Medical Officer of Health, dilates at some length upon the question of venereal disease among adults. Dr. O'Brien quotes Dr. C. V. Le Fanu as writing :—"I am not overstating facts when I say that almost every male adult over 20 suffers from gonorrhœa. I might say the same of female adults, although I should say it is less common among them." In the villages outside Coomassie the disease also appears to be prevalent, so much so that a native chief appealed for legislation as a means of dealing with the spread of gonorrhœa. According to Dr. O'Brien, syphilis "is common and becoming more so every day" : salvarsan was tried in 8 cases with marked success.

The large proportion of resident Hausas, the fact that Coomassie is a large garrison town, and also, I am afraid, the rapid "civilisation" that is overtaking this cosmopolitan place, are factors which may account for the serious condition of things to which Drs. Le Fanu and O'Brien draw attention. Further investigation will, I hope, be made concerning this matter.

All that is, and can be, done in the way of general prophylaxis consists in explaining the serious nature of the disease and emphasising the need for early treatment.

(20) Beri Beri.

Our precautionary measures in this case have consisted in trying to improve the housing conditions of those who congregate in congested quarters, with special reference to the conditions under which imported Kroo boys live. In the case of Government "boys" who receive a rice ration the grain is inspected before distribution, for not infrequently it has deteriorated gravely in quality. It is a pity that unhusked grain cannot be procured locally in sufficient quantity to meet the requirements of the rice-eating sections of the community.

(21) Leprosy.

In the case of this disease all, with the exception of the afflicted themselves, are agreed as to the desirability of segregating leprous subjects : this unanimity of opinion is borne out in reports, both general and provincial, and by various chiefs of villages that contain lepers. Nothing, however, has been done on the lines suggested in last year's report. The truth is, I think, that leprosy in Africa does not excite that feeling of repulsion that existed in Biblical times : the leper is not only tolerated in crowded African society, but he is an object of compassion and, if totally unfit to carry on any trade, is kept alive by the offerings of the charitable. But while the sight of a leper incites individual charity, it is doubtful, I think, whether a town or village would collectively support an institution in which their afflicted fellow townsmen were kept apart and out of sight. Naturally, also, the leper himself prefers living, and in some cases working, amidst his old surroundings, to being isolated in a camp or hospital where, as a rule, no hope of a cure can be offered.

It has been suggested by the Health Authorities that in the framing of market rules a clause should be inserted prohibiting the presence of lepers in the food markets.

HELMINTHIC DISEASES.

It is not easy to generalise about the preventive measures taken against helminthic disease; it is to be hoped, however, that the spread of education and the example set by Europeans in the matter of guarding their food and water supplies are helping the natives to avoid contracting diseases caused by worms.

In Table XI. will be found statistics relating to the periodical examination of fæces of prisoners and patients from native hospitals.

(22) Anchylostomiasis.

The provision of pan latrines and the strict surveillance exercised over the disposal of night soil have, undoubtedly, an important effect in those places where such precautions are taken.

In the Colony footgear of some sort is more in vogue than in Ashanti and the Northern Territories.

(23) Tæniasis.

In the more important stations the carcases are inspected at the Slaughter House by the Health Authorities, and any "measly" meat is condemned. Along the coast pigs' flesh is a common article of food.

(24) Bilharziosis.

The quantitative and qualitative improvement of water supplies, by providing better drinking water and also opportunities for washing in clean water, must certainly help to check the spread of this disease—assuming that it is spread through the medium of water.

(25) Trichinosis.

Pork is carefully examined wherever possible, but in any case the natives in their treatment of meat generally err on the side of overcooking.

(26) Guinea-worm.

The general improvement in water supplies has had a marked effect in some places in checking the ravages of dracunculosis. In large towns, too, the better class inhabitants are becoming more careful about their drinking water, and though sterilisation by boiling is practically never attempted by natives, filtering, on the other hand, quite commonly obtains. Among those who travel through the country guinea-worm is still common in some districts.

(27) Ascaris Lumbricoides.

Apart from the general instructions issued regarding the protection of foodstuffs, etc., from dust and other contaminating influences, the efforts to abate the pig nuisance in various villages may be considered an important preventive measure in the case of this particular round worm.

(28) Oxyuris Vermicularis.

No special precautions are taken here, but personal and domestic hygiene are subjects which are taught in schools.

(29) (iii.) GENERAL MEASURES.

The various tables in this report are intended to show the actual details of work undertaken by the Sanitary Authorities on behalf of the public health of the Colony and its Dependencies.

Table IV. gives particulars as to:—

(i.) The improvement of housing conditions.
(ii.) The improvement of slaughter houses and markets.
(iii.) The measures adopted and the work done in connection with the collection and disposal of all forms of refuse.
(iv.) Water supply and drainage.
(v.) The clearing of land, reclamation of marshy or low-lying areas, and oiling.
(vi.) Inspections and prosecutions by the Sanitary Inspectors: Table XIV. also refers to this subject.

Table IX. gives statistics of work carried out by the Mosquito Brigade.

Table XI. shows the results of the microscopical investigation of helminthiasis among inmates of the Native Hospitals and Prisons.

Table XII. gives a summary of the clinical examinations of children as regards splenic enlargements.

(30) Sewage Disposal.

This question is always a difficult one in West Africa from the Government's point of view, and in the case of large towns it is one that is getting more important year by year. In important places like Accra, Seccondee, Cape Coast, &c., public pan latrines cater for the needs of the bulk of the population: in addition, there are, in several of the coast towns, one or more sea latrines. These latter when well situated are excellent, since they require no service and can meet the wants of a far larger number of people than pan latrines, which require periodical emptying. In practically every sea town the contents of the latrine pans are emptied into the sea, and when well supervised this method of disposal is fairly satisfactory. It is unfortunate, however, that in some cases local circumstances make it necessary that a certain proportion of the night soil should be tipped up wind and "up stream" to the town. In one town, where the disposal by sea was not satisfactory, trenching has been introduced, but the price of land on the outskirts of large centres on the coast is too high to justify a "back to the land" system.

Pan latrines are found in such towns as are looked after directly by the Sanitary Department by means of Sanitary Inspectors and Scavengers; and so long as the onus of keeping these latrines in order is shouldered by the Government they are popular institutions among the natives. There is no instance, however, of a town or village arranging for its own conservancy in connection with latrines erected by the Government.

The better class householder and those who do not care about going to public latrines keep a pail in a small privy on the premises, and either pay the Town Councils for conservancy or make their own arrangements. Smaller utensils are much in vogue in the coast towns, and these are taken to the sea each morning by the women.

The native-made pit latrine is found at its best in the villages and towns of the cocoa district, where they dig rectangular pits 15 to 20 feet deep by 2 to 3 feet wide: the mouth of the pit is bridged with carefully selected planks or poles which are evenly spaced, and the whole arrangement is roofed with thatch or iron. It is doubtful whether these latrines of the forest region could be much improved in construction. In some of the coast villages, however, definite attempts have been made during the year to induce the natives of these regions to construct composite salga cesspits, which only differ from the above-mentioned latrines by the fact that the mouth of the pit is bridged in such a way as to leave circular openings at necessary intervals.

In the case of Europeans the earth closet is universal and the conservancy is well carried out: the more educated natives, too, cover the dejecta with earth, but the bulk of the population will not adopt this measure.

There remains the problem of dealing with liquid sewage, and this matter is becoming one of real moment in towns such as Accra, where the amount of sullage water from native compounds is considerable. This waste water, together with urine, finds its way into the surface drains, and in dry weather these open sewers—as they have now become—require a great deal of attention.

A pipe-borne sewage system is yearly becoming more necessary in the large coast centres, and the temporary abandonment of a Sewage Scheme for Accra is a very serious sanitary setback for the place.

A certain number of the latrines in Accra have been constructed in such a way as to allow of their being connected up later with a water-borne system.

(31) Disposal of Refuse.

The amount of refuse that has to be dealt with in large towns like Accra and Seccondee is very considerable and contains a large proportion of incombustible matter, such as tins and bottles. The ultimate destination of all the rubbish is the land, where, in places under European supervision, it is used—either in the form of crude refuse or clinker—for the purpose of filling up excavations and reclaiming low-lying and marshy ground.

Accra is somewhat unique in that most of the town refuse is taken to a disused quarry without being first incinerated. In the vast majority of the town under the Towns Ordinance, incinerators have now been built, and in the Northern Territories a home-made type of destructor is found in several stations.

Under certain conditions these incinerators are of great value; thus during the rains they allow of the combustion of refuse which would not be possible on the dumping grounds; they serve their purpose well where they are sufficiently numerous and are so placed that they can be fed directly by the householders themselves without the intervention of dustbins; and, lastly, they are eminently satisfactory in districts where there is a great deal of plantain and maize refuse, and where the incombustible tins and bottles are not so much in evidence.

In other circumstances these incinerators are not seen to such advantage. The number that would be required in Accra, for example, would be so great as to constitute a nuisance in themselves. In places, also, where there are swamps and water holding holes urgently needing filling it has been found politic to take all the refuse straight to these places. By this means time and labour is saved, and the holes, &c., get more quickly filled in with the crude refuse than they would with the clinker from the incinerators.

In all the important towns dustbins have been instituted; these receptacles are emptied daily, and the contents taken by carts either to the incinerators, or straight to the dumping grounds. The old iron boxes have been rightly discarded for fixed masonry bins, but I think it is doubtful whether we have yet arrived at the type of bin most suited to the idiosyncrasies of the natives.

In the towns and villages not under European supervision it cannot be said that the ultimate disposal of rubbish is very satisfactory. Burning is very seldom adopted except at the instigation of a European, and the usual thing is to found a cordon of rubbish heaps along the periphery of the village.

(32) WATER SUPPLY.

The question of water supplies is still one that vitally concerns most of the towns and stations in the Gold Coast, and during the year much has been done to improve the conditions associated with the source, collection and storage of drinking water.

The schemes in connection with the pipe-borne supplies for Accra, Seccondee and Coomassie first call for notice. As regards Accra the Resident Engineer reports progress as follows :—

> " The supply of water was turned on in Accra in January, 1914, although the works were incomplete. During that year the filters, service reservoir and pump house at Weshiang were completed and great progress made with the two storage reservoirs, one being partially filled.
>
> " In Accra water was laid into the various bungalows and additional distribution mains laid to various districts in Accra.
>
> " The supply of water was maintained during the whole year without intermission except for occasional inevitable bursts on the trunk main."

The consistent supply of fresh water has proved to be an inestimable boon for natives and Europeans alike. As regards quality, however, it cannot be said that a safe drinking water has yet been produced, and analyses show that the samples (taken at Weshiang) do not so far conform to those standards of purity which were guaranteed by the Contractor.

In the case of Seccondee Waterworks it is reported that " the dam, pump house, and excavations for clear water tank and filter tanks, were started, and the pipe main towards Seccondee made good headway." In addition the housing conditions of the camp have been improved, and the railway to the works was completed.

As far as the Coomassie water supply goes preliminary investigations only have obtained. It is something, however, to have found a suitable source, and the river Adra should yield a good quantity of very fair water.

It should be mentioned that some of the Mining Companies have provided pipe-borne water supplies for their employees, though no attempt is made at purification.

In many towns the provision of wells and pumps has been a marked feature in the sanitary improvement programme for the year. In the districts the common watering place has been improved by the construction of cement " basins " and weirs.

Rain water is still largely used by Europeans, so that in most stations tanks are a necessary item in bungalow construction.

The portable condensers so deservedly popular in Northern Nigeria have not appeared in this Colony, but they would probably be very acceptable in the far stations of the Northern Territories, where good drinking water is an important desideratum.

(33) DRAINAGE.

A cursory glance at Appendix No. 1 will show how prominently drain construction has figured in the work carried out during the year by the Sanitary Engineer, and in Table IV., head 13, is given the actual length of drains that has been laid down in the towns of Accra, Seccondee, Cape Coast and Coomassie.

In the case of Accra it was necessary to proceed slowly and thoughtfully with regard to any new drains, in order that the surface drainage system might be linked up efficiently with the pipe-borne sewage scheme. The latter project, alas, has had to be abandoned for the present, so that the surface drains are often found to be acting as open sewers. This condition is more or less inevitable in all large towns, and accentuates the additional need of a good water supply for flushing purposes.

In Seccondee good progress has been made in the construction of conduits for the heavy storm waters that course down the hills and pass through the town to the sea or lagoon.

In many of the cocoa towns which are built on hills the construction of cement drains is rather a costly undertaking, owing to scouring and wash-outs, which necessitate a good deal of expenditure in upkeep.

Mention has been made elsewhere of the good surface drainage that has been carried through in towns like Tarquah. In the Northern Territories open cut surface drains are all that can be made, owing to the cost of transporting cement to such a distance.

(34) Roof Gutters.

As far as European houses are concerned, the amount of roof guttering is getting less, and in Coomassie it has almost reached vanishing point. These gutters, however, are great economical assets in places like railway stations, where a large collective roof area obtains, and where the water can be safely stored in underground tanks.

The use of storm boards as recommended by Dr. Palmer, to which attention was called in last year's report, is being extended to the bungalows and public buildings in Addah.

(35) Oiling.

With the increase, during the year, of more radical measures for preventing mosquito breeding, the use of kerosene as a larvicide has grown less. Nevertheless, the oil has been very useful in dealing with intractable pools, and in safeguarding old and defective tanks.

(36) Reclamation.

The word reclamation at once suggests "lagoons," and apparently almost every town and village along the littoral of the Colony has its own piece of inland water, varying in extent from the lagoon at Quittah to the ponds at places like Adjuah and Dixcove.

It may be said at once, as far as these "lagoons" are concerned, that no radical measures of reclamation have been carried through during the year. The question of dealing with the land-locked collection of water at Saltpond again came up, only to be put aside as a measure too costly for the year 1914. Each of these "lagoons" indeed presents difficulties of its own, the overcoming of which would involve an outlay that would seldom be commensurate with the profits achieved. Moreover the exodus of officials from the near neighbourhood of these lagoons to the Segregation Areas at such places as Saltpond and Axim has tended to remove one of the chief reasons for dealing with these mosquito haunts.

It is among the mining camps, perhaps, that the most noteworthy results have been achieved, and, as mentioned elsewhere, much good work has been done at Tarquah in reclaiming the marshy hollows that are a natural feature of these gold districts.

The Railway Authorities are recognising their responsibility in the matter of borrow pits along the line, and in some cases have dealt with the nuisances that arise therefrom.

In districts and towns where Medical Officers are stationed a great deal of unostentatious reclamation has been going on. The gradual filling in of a deep quarry at Accra with the town's refuse; the ingenious way in which swampy ground is being treated at Coomassie; the practice at Obuasi of covering each day's deposit of rubbish with gravel; and the " road of rubbish " that now bridges a once swampy gulf between Nsawam and an adjoining small hamlet—all these cases provide examples of routine reclamation work.

(37) Clearance of Bush, Undergrowth, etc.

This is a recurrent measure in most places where the work is a Government concern, but undoubtedly in the larger towns fresh areas have been reclaimed, the while previously cleared ground has been kept in order. In Accra, Seccondee and other expanding towns bush clearing has gone on hand in hand with town extension schemes. In the neighbourhood of large centres on the coast, and in the Savannah region, it is to be feared that bush clearing is overdone in order to satisfy the demand for firewood. In the forest region, on the other hand, it has not been found easy to keep down the bush except where the land is actually occupied by houses. In small towns and villages the inhabitants are satisfied with the minimum of clearing at the periphery of their township. Clearing for clearing's sake does not appeal to the native mind, and failure to clear back the undergrowth to the prescribed limit is one of the commonest conditions which the householder is called upon to abate. It cannot be said either that much has been done to keep clear the neighbourhood of fords and watering places, important though the matter is in those districts where tsetse flies are found.

It is satisfactory to record that in most of the stations good work has been done in the matter of dhubing (planting of " dhub " or " bahama " grass). The grass lawns of Coomassie are famous, but other places less favoured as regards climatic conditions have also made a good show during the year. A grass carpet is slowly but surely unfolding itself over the brown wastes of Accra. The Medical Officer of Health, Seccondee, reports good results; indeed, the widespread popularity of dhubing is one of the most encouraging signs of the time.

(38) Contagious Diseases Hospitals.

The number of towns now possessing permanent Contagious Diseases Hospitals has increased considerably since the last report was written, and to the list there given must now be added Accra, Addah, Quittah, Saltpond and Obuasi. Similar buildings have been started also at Axim and Winnebah. All these hospitals have been, or are being, built to type, but I think it is an open question whether we have yet solved the problem of the best form of hospital accommodation for the isolation and treatment of infectious cases. It is only at Coomassie that the Contagious Diseases Hospital grounds are surrounded by an unclimbable fence, which is a most necessary feature of all isolation camps intended for natives in this country. The ephemeral grass huts are excellent in many ways, and serve their purpose well in towns of the Northern Territories, where they can be quickly erected.

The positions, both actual and relative, that are occupied by the permanent Contagious Diseases Hospitals are without exception, I think, good.

(39) FREE DISTRIBUTION OF QUININE IN SCHOOLS.

During the year the practice of free distribution of quinine among school children was introduced.

A start has been made with the following towns and villages :—Quittah, Addah, Akuse, Aburi, Abokobi, Accra, Christiansborg, Nsawam, Winnebah, Saltpond, Cape Coast, Elmina, Seccondee, Axim, Obuasi and Coomassie.

The tabloids in which form the drug is given are sugar coated, and are made up in doses of 5, 3 and 2 grains each, to suit the various ages of the children.

The quinine is given once a week by the teachers, and a register is kept showing the name and age of the recipient and the amount of quinine administered. In this register, also, the Medical Officer records any remarks or recommendations.

During the last quarter of the year 279,000 tabloids were distributed among the schools in the above mentioned centres.

(40) SEGREGATION AND HOUSING PROBLEMS.

(*a*) *Europeans.*—The necessity of segregation for Europeans is now an accepted fact ; the number of houses built for European Officials in Segregation Areas during the year under review affords testimony to the faith that is in us. It is true that only the Government Officials have so far derived any benefit from segregation, but there are signs that seem to show a real desire on the part of some mercantile firms to take advantage of segregation. It appears essential that there should be constant European supervision over shops and warehouses necessitating the permanent residence over the shops, &c., of the European employees. One firm, however, is considering the question of providing houses well outside the crowded part of the town for the greater number of its employees, and detailing one or two men as sort of " orderly officers " for the month, whose duty it would be to live over the store for that period. In this way each employee would spend the greater part of his tour in a house removed from the discomforts and dangers that surround the ordinary factory or store. I think the firm in question has taken a step in the right direction, and the example is one that might be followed with very great advantage to all concerned.

As far as the Mining Camps are concerned segregation of European employees is practised by nearly all the Companies.

In Accra, the growth of the Segregation Area for first and second class officials has been little short of marvellous; 35 houses have been completed during the year, and 66 have been started.

In Seccondee, Cape Coast, Axim, Saltpond, Winnebah, Dunkwa, Tarquah and Coomassie, the year has witnessed the commencement of an exodus from the town to specially reserved and segregated areas.

Among the stations where sufficient segregation does not obtain are Quittah, Sunyani, and Bole.

The majority of houses that have been built during the year are of the " A " and " B " type. In both certain modifications have been introduced, which it is hoped will render them more healthy and comfortable. It is not an easy matter to design a house which will be equally suitable for such different climes as are found on the coast itself, in the comparatively airless forest region, and in the Northern Territories.

The new pattern, "B" type, in which all the rooms are on one floor, will probably prove far more popular than the double-storied species.

The houses of merchants, apart from the fact that they are mostly situated in the native towns, are not very satisfactory in many cases, since they are often old and poorly designed and too small for the number of inmates. In this respect, however, Coomassie may be cited as an exception, and where the firms are building new residential quarters (as in Accra) and the type of house is good.

(*b*) *Native houses.*—Efforts to ensure that native houses should be erected only in conformity with sanitary and hygienic principles have been maintained as far as possible during the year, and some of the model townships connected with the larger centres have been developing on sound lines under the supervision of the Sanitary Engineering Staff.

Elsewhere, owing to the boom in building (in the cocoa districts especially) and the shortage of staff, it has been difficult to keep pace with the growth of towns and the erection of houses.

The system of building permits has undoubtedly provided a certain amount of check upon promiscuous building, but Building Inspectors are badly wanted.

(41) SANITARY INSPECTORS.

Over Native Sanitary Inspectors, as a class, a good deal of supervision is still necessary. It is only fair to say, however, that the more senior officers have deserved the confidence placed in them, and perform their duties to the best of their ability.

Unfortunately lack of funds has precluded the possibility of training the younger men on the lines suggested last year, and it is among the rank and file that difficulties are experienced.

It should be mentioned again, I think, that both Medical Officers and Superintending Sanitary Inspectors have been at much pains to assist in the general training of native inspectors; but it is very desirable that, before being drafted out, young inspectors, both on their own account and for the sake of those under whom they are posted, should be more systematically trained than is possible under present circumstances.

(42) PRISONS.

A good proportion of the gaols and lock-ups have been inspected during the tours by various officers of the Sanitary Branch. Speaking generally the gaols which have been designed as such are very satisfactory and are kept in good satisfactory order; where criticism was offered it was chiefly on the subject of ventilation.

Some of the old Forts adapted as prisons are not all that could be desired from a sanitary point of view.

(43) SLAUGHTER HOUSES.

During the year the number of slaughter-houses in the Colony and its Protectorate has been increased by five.

These buildings are certainly popular among the Hausa butchers, and at the same time they facilitate the inspection and control of meat supplies.

The slaughter-house at Coomassie, though not large enough for the needs of the town, is excellent in its way and has done much to improve the conditions under which animals are killed and prepared for the market. A start has also been made with the new slaughter-house for Accra.

The results of microscopical examination of blood films taken at the various slaughter-houses are given in Table X.

(44) Markets.

Reference to Appendix No. 1 will show that a good deal has been done during the year in the matter of putting up market sheds.

Indeed, since by the above mentioned heading is meant only such market places as have been provided by Government with covered stalls, it may be said that eight new official markets have come into being during the year.

In some of the larger and growing towns the relative position of the chief market is, I think, a matter for some consideration in the future. As the town increases in size so does the market—by a process of accretion—until it finds itself too large for the original space, when it sends out offshoots into neighbouring streets and lanes.

(45) Cemeteries.

Three kinds of cemeteries are recognised, viz. :—

1. *Public Cemeteries* which are declared to be such by order of the Governor in Council, and for the maintenance of which the Government is responsible. Such cemeteries are found at Accra, Labadi, Christiansborg, Cape Coast, Axim, Seccondee, Elmina, Tarquah, Saltpond, Winnebah, Addah, Quittah, Akuse, Aburi, Dodowah, Dunkwa, Kpong and Coomassie; and for each of these districts there is a Deputy Registrar of Births and Deaths.

During the year a new public cemetery was proclaimed at Cape Coast.

2. *Chiefs' Cemeteries.*—These exist in practically every town and fair sized village in which there is no Public Cemetery, and such burial grounds are maintained by the Chiefs.

3. *Private Cemeteries.*—These are kept up by non-official sections of society, such as Missions, Mining Companies, &c. They are becoming obsolete, however, and no new ones are being made.

During the year a good deal has been done in the matter of arranging for more accommodation as regards public cemeteries, and sites for several Chiefs' cemeteries have been selected.

The total number of recorded burials for the year was 2,689; of this number 2,040 took place in public cemeteries and 649 in private cemeteries.

B.—MEASURES TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

(46) General.

Speaking generally it may be said that the majority of European officials act as missionaries of hygiene and sanitation both by precept and example, and endeavour to spread among natives the knowledge of those measures and precautions that conduce to good health.

The Health Authorities, of course, make a special point of giving instruction whenever and wherever such instruction is necessary; in the case of Europeans and other literates this is done by means of circulars, pamphlets and demonstrations; the illiterate portion of the community are slowly learning at the hands of the Sanitary Inspectors the simple facts of every day hygiene and sanitation.

(47) SCHOOL TEACHING.

A copy of a report from the Acting Director of Education is attached as Appendix No. 2.

From this Report it will be seen that the subject of hygiene is being taught in a practical and simple manner.

The schedule of instruction in hygiene has recently been revised as a result of a consultation between the Education and the Sanitary Authorities.

C.—RECOMMENDATIONS FOR FUTURE WORK.

Since all works in connection with sanitary improvements involve the outlay of money, the present would hardly seem the time to put forward any recommendations.

It may be just noted, however, that the recommendations which were recorded in last year's Report hold good at the present time.

In closing this Report, I desire to acknowledge the help given me by Dr. Parsons, the Junior Sanitary Officer, in its preparation, and also the willing assistance rendered by him and the other members of this branch, as well as those of the medical staff, who in addition to their medical duties have worked so hard in the cause of preventive medicine.

D. ALEXANDER,
Senior Sanitary Officer.

ACCRA,
27th April, 1915.

IV—METEOROLOGY.

The meteorological observations are given in Table V. in this Report.

Thirteen stations send in monthly records which are taken by officers of this Department except in the case of Aburi, where the Agricultural Department take them.

They do not call for any special comments from me.

V—HOSPITALS AND DISPENSARIES.

I have again to report that the Hospitals and Dispensaries in the Colony, Ashanti and the Northern Territories were maintained in an efficient state.

For a considerable time after the outbreak of hostilities the work of the Department was more or less dislocated.

However, in the previous seven months the larger hospitals were nearly always full to the point of over-crowding, so that instead of a decrease we are able to show a most satisfactory increase in the number of in- and out-patients treated.

During August and September increased accommodation was provided in the event of our having to receive sick and wounded.

ACCRA.

The old European hospital was still in use for the whole year, and very excellent work was done in it.

	1912.		1913.		1914.
Number of in-patients treated ...	77	...	142	...	151

Two shocks of earthquake caused large cracks to appear in the old swish walls of the offices underneath. These have continued to increase in size.

I understand the building was erected in 1896.

The rather dilapidated native hospital and out-patient department was severely taxed, and it is a great disappointment that the present financial resources of the Colony do not permit of the provision of a much needed new one.

Were it not for the energy and enthusiasm shown by the various medical officers who have been in charge of it I don't know what we should do.

It is not encouraging to do surgery when you know your patients after treatment will be in a ward with any and every kind of medical and surgical case.

SECCONDEE.

In my last report I mentioned that it was in contemplation to build a new European hospital and the new European nurses' quarters, already sanctioned, in the segregation area. The idea had to be abandoned, but the quarters are to be proceeded with on the same site as the old and dilapidated ones, the nurses meanwhile being most unsuitably housed.

The hospital does very good work, but it is a most inconvenient one for efficient nursing, as the I. and II. class wards are on different floors and are connected by a remarkably break-leg staircase.

	1912.		1913.		1914.
Number of in-patients treated ...	154	...	168	...	203

The native hospital is much improved in every way, thanks to the zeal of the Medical Officer and European nurse in charge of it.

A small ward was added for females, and an office built for the Senior Medical Officer, thus providing an out-patient room for natives.

COOMASSIE.

The European hospital has been well kept up during the year under review, and its work has been satisfactory.

In the future, it is hoped, a new one will be built in the segregation area, together with European nurses' quarters and quarters for the Provincial Medical Officer.

	1912.		1913.		1914.
Number of in-patients ...	52	...	50	...	58

The new native hospital was only partly completed at the end of the year, and will be undoubtedly the best one in the Colony and its Dependencies.

It was very badly needed indeed, as the old one was much too small for such a centre as Coomassie.

For part of the year I was able to give Coomassie the services of two instead of one European nurse, which added greatly to the efficiency of the hospitals.

OTHER STATIONS.

The hospitals and dispensaries at all the other stations in the Colony and its Dependencies were efficiently maintained.

The new native hospital at Saltpond is in course of erection, and is much needed there.

A native hospital with dispensary and offices is to be built at Koforidua, and the Medical Officer of the Akwapim District will reside there as soon as it is completed and quarters are provided for him.

SUMMARY OF HOSPITAL AND DISPENSARY RETURNS.

1913.

	In-patients.		Out-patients.
Europeans	400	...	854
Natives including West African Frontier Force and Police ...	3,307	...	44,930
Totals	3,707		45,784

Surgical operations, 640.

1914.

	In-patients.		Out-patients.
Europeans	438	...	1,313
Natives including West African Frontier Force and Police ...	3,274	...	46,878
Totals	3,712		48,191

Major surgical operations, 500.

LUNATIC ASYLUM.

Hitherto the ordinary lunatic and the criminal lunatic were confined in the same part of the asylum and took exercise together, but of course under supervision. This of course was very inadvisable, but lack of proper accommodation and supervision made it necessary. This year, however, accommodation for criminal lunatics is being provided, which is a step in the right direction.

It was under consideration to remove the asylum, owing to its proximity to the non-official segregation area and the new European hospital, but this idea is abandoned for the present.

More constant medical supervision has been impossible, although I had hoped to be able to arrange it.

Water has been laid on since the beginning of the year.

The inmates have been employed in mat-making, farming, gardening, and road making near the institution.

The mortality works out at 11·6 per cent., or a reduction of nearly 50 per cent. This must be considered very satisfactory.

The following figures are a statement of admissions, discharges and deaths :—

	Remaining at the end of 1913.	Admitted during the year 1914.	Total under treatment, 1914.	Discharged.	Deaths.	Remaining 31st December, 1914.
Males	81	50	131	13	17	101
Females	12	3	15	1	—	14
TOTAL	93	53	146	14	17	115

PRISONS.

The general health in the prisons has been, I consider, most satisfactory.

There was no outbreak of any disease which calls for comment here.

The subjoined figures show that there was an increase in the number of prisoners confined and a substantial decrease in the total sick.

The mortality was 0·3 per cent., the same as last year.

	1912.	1913.	1914.
Total convicts	6,064	5,358	5,697
Total sick	701	552	390
Total deaths	18	18	22

VI—SCIENTIFIC.

The Annual Report of the Accra Laboratory, which formerly was shown as an Appendix in the Annual Medical and Sanitary Report is this year published separately.

Dr. J. W. Scott-Macfie was appointed Pathologist, which marked a new departure for the Laboratory.

Previously it was in charge of a Medical Officer who had to perform other duties as well.

Dr. E. M. Condy had charge of it for nearly fifteen months continuously.

I think the Government may congratulate themselves on having obtained the services of Dr. Macfie, whose report reflects the greatest credit on him.

I trust that the success which has attended the Accra Laboratory will, when things are brighter, induce the Government to establish a similar laboratory at some other large centre, either Sekondi or Coomassie.

May I here be allowed to express my deep appreciation of the loyalty and devotion to duty displayed by all members of the staff during a very trying year.

F. G. HOPKINS,

Principal Medical Officer.

June 24th, 1915.

TABLE I.

MEDICAL STAFF ON THE 31ST DECEMBER, 1914.

Principal Medical Officer	F. G. Hopkins.
Deputy Principal Medical Officer	E. H. Tweedy.
Senior Sanitary Officer	D. Alexander.
Provincial Medical Officer	J. A. Clough.
” ” ”	E. W. Graham.
Senior Medical Officer	J. H. Collier.
” ” ”	W. W. Claridge.
” ” ”	E. C. Adams.
Sanitary Officer	A. C. Parsons.
Medical Officer	P. M. Tobit.
” ”	F. S. Harper.
” ”	C. H. D. Ralph.
” ”	C. V. Le Fanu.
” ”	R. O. White.
” ”	A. C. Lorena.
” ”	J. C. S. McDouall
” ”	A. B. Tighe.
” ”	W. M. Wade.
” ”	F. I. M. Jupe.
” ”	F. H. Storey.
” ”	T. H. Dugon.
” ”	G. E. H. Le Fanu.
” ”	H. O'Hara May.
” ”	J. M. O'Brien.
” ”	H. T. Palmer.
” ”	A. M. Dowdall.
” ”	R. Whyte.
” ”	E. Brabazon.
” ”	H. W. Gush.
” ”	G. J. W. Keigwin.
” ”	G. de P. d'Amico.
” ”	J. A. Beamish.
” ”	D. Duff.
” ”	M. W. Fraser.
” ”	S. Goodbrand.
” ”	J. E. Moffatt.
” ”	R. Mugliston.
” ”	J. W. S. Macfie.
” ”	J. Donnelly.
” ”	H. F. Hamilton.
” ”	P. D. Oakley.
” ”	W. A. Ryan.
” ”	W. G. Watt.
” ”	M. B. Hay.
” ”	A. Ingram.
” ”	K. B. Allan.
” ”	A. J. R. O'Brien.
” ”	J. B. Alexander.
” ”	C. L. Ievers.
” ”	M. Graves.
” ”	D. J. F. O'Donoghue.
” ”	S. L. Brohier.
” ”	J. F. Corson.
” ”	W. Telfer.
” ”	T. A. Dowse.
” ”	E. M. Condy.
” ”	G. G. P. Beckett.
” ”	C. R. Patton.
” ”	R. G. Ball.
” ”	A. S. Burgess.
” ”	J. I. Baëza.
Vacancies	Four.

EUROPEAN NURSING STAFF ON 31ST DECEMBER, 1914.

Senior Nurse	Miss Jessie Oram.
„ „	„ E. F. Dunne.
„ „	„ A. Adair.
Nurse	„ M. M. Stanton.
„	„ A. M. Page.
„	„ J. Winchester.
„	„ R. M. Veecock.
„	„ E. M. Deering.
„	„ L. Harvey.

PRINCIPAL MEMBERS OF SUBORDINATE STAFF.

Chief Clerk	S. H. Brew.
First Class Clerk	Richard Aikoofu.
Second Class Clerk	C. B. Palmer.
„ „ „	J. S. Sackey.
„ „ „	W. S. Mettle.
„ „ „	G. W. Gilbert.
Third Class Clerks	Seven.
Temporary „	Three.
Messenger	One.

DISPENSING STAFF.

Chief Dispenser	John Cato.
First Class Dispenser	F. W. C. Wulff.
„ „ „	H. D. Laryea.
„ „ „	R. P. Williams.
„ „ „	W. B. Hagan.
Second Class Dispensers	Ten.
Third „ „	Ten.

NATIVE NURSES.

Second Class Nurses	Six.
Third „ „	Twenty-four.
Nurses	Twenty-two.

MEDICAL STORE.

Storekeeper	Vacant.
„ (Ashanti)	D. B. Odonkor.

LUNATIC ASYLUM.

Chief Attendant	J. W. Ephraim.
Asst. „	T. W. Tagoe.
Attendants	Eight.
Matron	One.
Gatekeeper	One.

TABLE II.

STATEMENTS OF EXPENDITURE IN THE YEAR UNDER SUB-HEADS AS COMPARED WITH THE ESTIMATES.

Medical-Head 16.	Estimates, 1914.	Actual Expenditure		
OTHER CHARGES.	£	£	s.	d.
Diet and Provisions	3,000	3,397	13	11
Medical Comforts	600	295	5	3
Medicines and Chemicals	1,300	1,371	6	9
Medical Appliances and Druggists' Sundries	600	509	19	9
Medical Library	80	49	10	7
Medical Assistance (Extra)	130	125	15	8
Surgical Instruments and Appliances	500	271	13	9
Meteorological Instruments	40	37	0	9
Bedding and Hospital Equipment	900	844	7	6
Disinfectants	100	82	18	9
Fuel and Light	180	140	18	10
Outfit Allowance to Medical Officers	100	48	0	0
Clothing for Native Staff and Attendants	200	118	4	6
Clothing for Lunatics	30	30	1	1
Medical Examination of Officers in England	150	175	7	0
Courses of Instruction for Medical Officers	900	393	12	9
Typewriters, purchase and maintenance	60	45	16	8
Research Equipment	286	392	18	0
Scientific Research with respect to Tropical Diseases	25	9	17	6
Contribution towards Medical Research Institute, Lagos, Salaries of Officers and maintenance	460	289	17	7
Contribution to Entomological Investigation in West Africa ...	350	—		
Contribution to the Tropical Diseases Research Fund	200	200	0	0
Contribution to Sleeping Sickness Bureau	150	300	0	0
Contribution towards the salary, etc., of Medical Officer attached to the Colonial Office	191	182	12	3
Contribution towards the expenses of the Advisory, Medical and Sanitary Committee	107	69	0	1
Passages of Officers to and from the Colony	2,500	2,628	13	3
Passages of Officers Coastwise	150	127	0	5
Railway Fares and Freight	370	365	9	6
Transport Allowance for Principal Medical Officer or Officer acting for him	36	20	5	6
Transport Allowance for Deputy Principal Medical Officer or Officer acting for him	36	13	13	11
Transport Allowance to Medical Officers	1,180	903	10	4
Travelling Allowances	600	417	7	3
Hammockmen and Carriers	900	494	3	10
Freight on Stores by Steamer	150	38	18	1
Transport of Stores by Carriers	80	66	19	2
Entomological Equipment	150	0	15	10
Contingent Expenses	15	5	12	1
Carried forward	£16,806	£14,464	8	1

TABLE II.—*continued.*

STATEMENTS OF EXPENDITURE IN THE YEAR UNDER SUB-HEADS AS COMPARED WITH THE ESTIMATES—*continued.*

Medical-Head 16.	Estimates, 1914.	Actual Expenditure.
	£	£ s. d.
Brought forward	16,806	14,464 8 1
SLEEPING SICKNESS.		
Passages of Officers to and from the Colony	180	—
Passages of Officers Coastwise	10	—
Hammockmen and Carriers	1,400	304 8 4
Travelling Allowances	380	15 10 0
Transport of Stores by Carriers	10	—
Rendering Buildings Fly-proof	200	—
Tools, Purchase of	20	16 19 6
Labourers	2,000	1,377 5 0
YELLOW FEVER.		
Gold Coast Contribution	1,500	—
TOTAL	£22,506	£16,178 10 11

	£ s. d.
Dental Surgeon—Proportion of Salary and Expenses	260 0 9
Expenses in connection with Dr. J. J. Simpson's visit to the Gold Coast	575 16 11
TOTAL	£835 17 8

TABLE III.

RETURN OF STATISTICS FOR THE YEAR.

	Europeans and Whites.	Africans.	East Indians.	Chinese and Malays.	Mixed and Colonial.	Remarks.
Number of Inhabitants in 1911 ...	1,389	1,501,997	—	—	—	Census 1911.
„ „ Births during the year 1914	—	2,054	—	—	—	In the Registration Districts.
„ „ Deaths „ „	33	2,563	1	—	—	Do.
„ „ Immigrants „ „	—	—	—	—	—	Record will be available for next year.
„ „ Emigrants „ „	—	—	—	—	—	Impossible to ascertain.
„ „ Inhabitants in 1914 ...	—	—	—	—	—	—
Increase „ „ „ ...	—	—	—	—	—	—
Decrease „ „ „ ...	—	—	—	—	—	—

TABLE IV.

1.—Name of Town.

Station.	1911.		1912.		1913.		1914.	
	Approximate area.	No. of proclaimed open spaces.	Approximate area.	No. of proclaimed open spaces.	Approximate area.	No. of proclaimed open spaces.	Approximate area.	No. of proclaimed open spaces.
Accra	1,740 acres	33 recommended but not proclaimed.	1,740 acres	2 proclaimed 31 not proclaimed.	2,067 acres	2 proclaimed 31 not proclaimed.	2,100 acres	2
Addah	4 acres	—	4 acres	—	4 acres	—	4 acres	—
Akuse	½ sq. mile	—	2 sq. miles	—	—	6	½ sq. mile	—
Quittah	70 acres	10	½ sq. mile	—	½ sq. mile	13	½ sq. mile	13
Nsawam	—	—	—	—	—	—	619 acres	—
Cape Coast	2½ sq. miles	3	2½ sq. miles	3	2½ sq. miles	3	2½ sq. miles	3
Elmina	20 acres	13	20 acres	13	20 acres	13	20 acres	13
Saltpond	2 sq. miles	13	2 sq. miles	15	2 sq. miles	15	2¼ sq. miles	15
Winnebah	¼ sq. mile	8	2 sq. miles	8	2 sq. miles	8	2 sq. miles	3
Seccondee	530 acres	3	530 acres	3	3 sq. miles	3	3 sq. miles	3
Axim	1 sq. mile	2	8 acres	6	478 acres	6	468 acres	6
Tarquah	1½ sq. miles	—	1½ sq. miles	—	1½ sq. miles	—	1½ sq. miles	—
Dunkwa	—	—	—	—	—	—	1 sq. mile	—
Coomassie	3½ sq. miles	—	3½ sq. miles	—	4 sq. miles	—	9 sq. miles	—
Obuasi	4 sq. miles	2	4 sq. miles	2	4 sq. miles	1	4 sq. miles	4
Kintampo	—	—	—	—	—	—	1 sq. mile	—
Sunyani	—	—	—	—	—	—	1 sq. mile	2
	Acres.		Acres.		Acres.		Acres.	
Eastern Province ...	2,134	—	3,344	—	2,391	—	5,919	—
Central Province ...	3,380	—	4,180	—	4,180	—	4,340	34
Western Province ...	2,770	—	2,138	—	3,998	—	3,988	9
Ashanti	4,800	—	4,800	—	5,120	—	9,600	6
TOTAL	13,084	—	14,462	—	15,689	—	23,847	49

2.—Population.

Station.	1911.					1912.					1913.					1914.				
	Natives.		Europeans.			Natives.		Europeans.			Natives.		Europeans.			Natives.		Europeans.		
	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Total.
Accra	9,491	10,111	210	32	19,844	9,205	9,937	210	32	19,384	9,205	9,937	224	27	19,393	9,360	10,000	225	25	19,550
																Before the War				
Addah	811	761	9	1	1,582	1,500		11	1	1,512	811	761	14	—	1,586	811	761	13	—	1,585
Akuse	1,728	1,356	22	1	3,107	1,728	1,356	27	1	3,112	1,417	1,442	19	1	2,879	1,430	1,472	20	2	2,924
Quittah	1,666	1,727	14	9	3,416	1,589	1,784	14	9	3,396	1,815	1,815	13	10	3,653	1,822	1,838	13	6	3,679
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(Census 1911)			2,609
Cape Coast ...	5,422	5,847	29	8	11,306	5,422	5,849	32	6	11,309	5,422	5,849	48	8	11,327	5,422	5,849	43	8	11,322
Elmina	2,256	2,835	4	6	5,098	1,500	2,500	3	3	4,006	1,500	2,500	4	3	4,007	1,947	3,160	8	3	5,118
Saltpond	1,683	1,857	11	2	3,553	4,880		11	—	4,891	4,880		35	—	4,915	4,889		44	—	4,933
Winnebah	3,794	2,048	27	1	5,870	2,966	2,936	45	5	5,954	2,966	2,986	42	5	5,999	2,998	3,018	54	4	6,074
Seccondee	5,774	3,211	120	17	9,122	5,800	3,222	15	10	appx. 9,190	6,000	4,839	150	11	11,000	3,149	5,807	152	14	9,122
Axim	1,703	1,582	20	2	3,307	2,100	1,200	128	4	appx. 3,432	2,100	1,200	147	5	3,452	2,000	1,500	10	2	3,512
Tarquah	1,402	969	47	5	2,423	1,021	1,050	47	5	2,123	1,203	1,223	369	1	2,796	1,021	1,050	193	2	2,265
Dunkwa	1,735	598	30	1	2,364	1,433	1,060	34	—	2,527	1,735	598	28	1	2,362	1,735	598	28	1	2,362
																Approx.				
Coomassie	18,853		90	6	18,949	11,000	10,000	92	5	21,097	12,000	11,000	110	6	23,116	12,000	11,000	89	6	23,153 (Syrians 56)
Obuasi	3,675	1,951	254	3	5,883	2,182	1,614	192	1	3,989	2,182	1,614	183	1	3,980	2,136	1,594	175	2	3,907
Eastern Province...	—	—	345	67	442,232	—	—	—	—	—	—	—	—	—	—	—	—	—	—	442,232
Central Province...	—	—	65	20	247,121	—	—	—	—	—	—	—	—	—	—	—	—	—	—	247,121 (Census 1911).
Western Province	—	—	967	25	164,413	—	—	—	—	—	—	—	—	—	—	—	—	—	—	164,413
Ashanti	—	—	223		287,814	—	—	—	—	—	—	—	—	—	—	—	—	—	—	287,814
Northern Territories	—	—	—	—	361,806	—	—	—	—	—	—	—	—	—	—	—	—	—	—	361,806
TOTAL ...	—	—	—	—	1,503,386	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,503,386

3.—HOUSING.

Station.	1911.				1912.				1913.				1914.			
	Houses.		Huts.		Houses.		Huts.		Houses.		Huts.		Houses.		Huts.	
	E.	N.	E.	N.	E.	N.	E.	N.	E.	N.	E.	N.	E.	N.	E.	N.
Accra	100	2,611	Included under houses.		107	2,527	Included among houses.		118	2,653	Included among houses.		136	2,700	See houses.	
Addah	8	250	—	—	8	250	—	—	9	251	—	—	9	252	—	—
Akuse	10	228	—	160	8	165	—	506	7	578	—	31	9	620	—	464
Quittah	9	585	—	258	9	589	—	261	9	602	—	261	9	638	—	261
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	17	706	—	294
Cape Coast	11	1,161	—	499	18	1,154	—	499	23	1,151	—	499	18	1,134	—	281
Elmina	3	900	—	—	3	900	—	—	3	900	—	432	3	915	—	432
Saltpond	8	256	—	224	8	280	—	224	9	536	—	14	12	549	—	14
Winnebah	14	200	—	726	14	210	—	666	15	270	—	648	15	578	—	—
Seccondee	71	1,165	No	Record	56	1,090	—	141	60	1,571	—	—	60	—	—	15
Axim	11	851	—	518	14	867	—	518	18	658	—	344	9	415	—	306
Tarquah	22	677	—	—	22	677	—	—	22	612	—	—	12	300	—	—
Dunkwa	11	304	—	201	13	310	—	210	10	301	—	200	9	300	—	200
Coomassie	40	1,900	—	100	40	1,941	—	100	46	885	—	150	47	913	—	150
Obuasi	6	934	—	—	29	1,503	—	—	7	1,183	—	—	36	1,088	—	—
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	240
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	7	6	—	450
Eastern Province ...	137	3,674	—	418	132	3,331	—	767	143	4,084	—	292	180	4,916	—	1,019
Central Province ...	36	2,517	—	1,449	43	2,544	—	1,389	50	2,857	--	1,693	48	3,276	—	727
Western Province...	115	2,997	—	719	105	2,944	—	860	110	3,222	—	544	90	1,015	—	521
Ashanti	46	2,834	—	100	69	3,444	—	100	53	2,068	—	150	92	2,007	—	840
TOTAL	334	12,022	—	2,686	349	12,263	—	3,116	356	12,231	—	2,689	410	11,214	—	3,107

4.—MOSQUITO PROTECTION OF HOUSES.

Station.	1911.				1912.				1913.				1914.			
	Number of Houses wholly protected.	Number of Houses with mosquito-proof room.	Made wholly protected in 1911.	Partially protected in 1911.	Number of Houses wholly protected.	Number of Houses with mosquito-proof room.	Made wholly protected in 1912.	Partially protected in 1912.	Number of Houses wholly protected.	Number of Houses with mosquito-proof room.	Made wholly protected in 1913.	Partially protected in 1913.	Number of Houses wholly protected.	Number of Houses with mosquito-proof room.	Made wholly protected in 1914.	Partially protected in 1914.
Accra	6	4	4	—	6	5	—	1	12	7	6	2	—	20	—	18
Addah	4	—	2	—	5	1	1	1	6	2	1	—	6	2	—	—
Akuse	—	3	—	2	—	3	—	—	—	—	—	—	—	6	—	6
Quittah	1	1	—	—	—	—	—	—	—	2	—	2	2	—	—	—
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Cape Coast	—	4	—	1	—	4	—	—	—	3	—	—	—	3	—	—
Elmina...	2	2	—	—	—	3	—	—	—	—	—	—	—	—	—	—
Saltpond	—	1	—	—	—	1	—	—	2	2	—	—	2	2	1	—
Winnebah	—	1	—	1	—	3	—	1	8	8	7	3	—	—	—	—
Seccondee	—	4	—	1	1	4	—	1	—	3	—	—	—	—	—	—
Axim	—	—	—	—	—	2	—	2	1	2	—	2	—	—	1	2
Tarquah	—	—	—	—	—	—	—	—	1	—	1	—	—	1	—	1
Dunkwa	—	—	—	—	—	—	—	—	1	—	1	—	—	1	—	1
Coomassie	—	4	—	—	—	4	—	—	—	6	—	2	—	6	--	—
Obuasi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	11	8	6	2	11	9	1	2	18	11	7	4	8	29	—	24
Central Province	2	8	—	2	—	11	—	1	10	13	8	3	2	5	1	—
Western Province	—	6	—	3	1	6	—	1	3	5	1	2	—	2	2	4
Ashanti	—	4	—	—	—	4	—	—	—	6	—	2	—	7	—	—
TOTAL	13	26	6	7	12	30	1	4	31	35	16	11	10	43	3	28

5 (A).—ERECTION OF NEW BUILDINGS DURING THE YEAR.

Station.	1911.					1912.					1913.					1914.				
	Public Buildings with full sanction.	Houses with full sanction.	Huts with full sanction.	Houses without sanction.	Huts without sanction.	Public Buildings with full sanction.	Houses with full sanction.	Huts with full sanction.	Houses without sanction.	Huts without sanction.	Public Buildings with full sanction.	Houses with full sanction.	Huts with full sanction.	Houses without sanction.	Huts without sanction.	Public Buildings with full sanction.	Houses with full sanction.	Huts with full sanction.	Houses without sanction.	Huts without sanction.
Accra	—	272		—	—	3	179		—	—	—	126	34	—	10	—	190	numerous		
Addah	1	2	—	—	—	1	2	—	—	—	—	1	—	—	—	2	1	—	—	—
Akuse	1	42	30	—	—	—	26	5	—	—	—	95	31	—	—	3	6	47	—	—
Quittah	4	14	—	2	11	2	1	2	—	2	1	13	—	2	10	—	36	—	—	—
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46	—	—	—
Cape Coast	—	—	2	14	1	—	—	—	8	—	—	2	—	5	—	—	3	—	1	—
Elmina	—	3	2	—	—	—	—	—	1	—	—	37	—	2	—	15	—	—	—	—
Saltpond	—	36	—	—	—	—	22	—	—	—	—	30	—	—	—	2	13	—	—	—
Winnebah	1	80	—	—	4	—	30	2	—	—	—	50	2	—	1	—	—	—	—	—
Seccondee	1	63	—	2	1	2	23	1	2	4	3	32	—	—	—	—	—	—	—	—
Axim	—	13	—	1	10	—	16	—	—	—	3	18	—	—	—	4	21	6	2	—
Tarquah	—	13	—	20	—	18	—	—	—	1	1	10	—	—	—	—	17	—	—	—
Dunkwa	—	2	—	—	—	1	5	—	—	—	9	—	—	—	—	1	—	—	2	—
Coomassie	1	30	—	—	—	1	50	—	—	—	—	52	—	—	—	12	60	—	—	—
Obuasi	9	Unknown			—	2	65	—	—	—	10	3	—	—	—	—	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	1	—	—
		272					179													
Eastern Province	6	58	30	2	11	6	29	7	—	2	1	235	65	2	20	5	297	47	—	—
Central Province	1	119	4	14	5	—	52	2	9	—	—	119	2	7	1	2	31	—	1	—
Western Province	1	91	—	23	11	21	44	1	2	5	16	60	—	—	—	5	38	6	4	—
Ashanti	10	30	—	—	—	3	115	—	—	—	10	55	—	—	—	12	65	1	—	—
		272					179													
TOTAL	18	298	34	39	27	30	240	10	11	7	27	469	67	9	21	24	431	54	5	—

5 (B).—ACTION TAKEN.

Station.	1911.				1912.				1913.				1914.			
	Number of Prosecutions.		Number Demolished.		Number of Prosecutions.		Number Demolished.		Number of Prosecutions.		Number Demolished.		Number of Prosecutions.		Number Demolished.	
	Huts	Houses.	Huts	Houses.	Huts	Houses.	Huts	Houses.	Huts	Houses.	Huts	Houses.	Huts	Houses.	Huts	Houses.
Accra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	3
Addah	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Akuse	—	4	6	3	—	—	36	—	—	—	—	—	—	—	14	9
Quittah	—	2	—	8	2	—	2	—	—	1	10	2	—	—	—	—
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	40
Cape Coast	1	14	1	137	—	8	19	77	—	5	—	11 completed 146 partly	—	1	15	3 complete 7 partly.
Elmina	—	2	—	2	1	—	—	—	—	2	—	1	—	—	—	53
Saltpond	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	9
Winnebah	—	—	4	—	—	—	1	60 ruined	1	—	1	26 ruins	—	—	—	—
Seccondee	1	2	99	24	—	2	2	51	—	—	—	—	—	—	—	—
Axim	—	—	10	1	—	—	19	17	—	—	12	1	—	2	—	2
Tarquah	—	20	—	44	—	70	—	3	—	7	—	13	—	7	—	8
Dunkwa	—	—	5	1	2	—	2	3	—	—	10	9	—	—	3	3
Coomassie	—	—	—	50	—	—	—	4	—	—	—	—	—	—	—	—
Obuasi	—	—	—	57	—	—	—	121	—	—	—	6	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—
Eastern Province	—	6	6	12	2	—	38	—	—	1	18	4	—	—	44	51
Central Province	1	16	5	139	1	8	20	77	1	7	1	15	—	1	15	72
Western Province	1	22	114	70	2	72	21	74	—	7	22	23	—	9	3	13
Ashanti	—	—	—	107	—	—	—	125	—	—	—	6	—	—	5	1
TOTAL	2	44	125	328	5	80	79	276	1	15	41	48	—	10	67	137

6.—MARKETS.

Station.	1911.			1912.			1913.			1914.		
	Number.	Paved and Drained.	Unpaved.	Number.	Paved and Drained.	Unpaved.	Number.	Paved and Drained.	Unpaved.	Number.	Paved and Drained.	Unpaved.
Accra	2	2	—	2	2	—	2	2	—	2	2	—
Addah	1	—	1	2	—	2	2	—	2	2	—	2
Akuse	1	—	1	1	—	1	1	—	1	1	—	1
Quittah	1	—	1	1	—	1	1	—	1	1	—	1
Nsawan	—	—	—	—	—	—	—	—	—	1	—	—
Cape Coast... ...	1	—	1	1	—	1	1	—	1	—	—	1
Elmina	1	1	—	1	1	—	1	1	—	1	1	—
Saltpond	1	1	—	1	1	—	1	1	—	1	1	—
Winnebah	2	2	—	2	2	—	2	2	—	2	2	—
Seccondee	1	1	—	2	2	—	2	2	—	2	2	2
Axim	1	1	—	1	1	—	1	1	—	2	2	—
Tarquah	1	1	—	1	1	—	1	1	—	1	1	—
Dunkwa	1	—	1	1	—	1	1	—	1	1	—	1
Coomassie	1	—	1	1	—	1	2	1	1	2	1	1
Obuasi	4	2	2	3	2	1	2	1	1	2	1	1
Kintampo	—	—	—	—	—	—	—	—	—	1	—	1
Sunyani	—	—	—	—	—	—	—	—	—	1	—	1
Eastern Province ...	5	2	3	6	2	4	6	2	4	7	2	4
Central Province ...	5	2	1	5	3	1	5	4	1	5	4	1
Western Province...	4	3	1	5	4	1	5	4	1	6	5	3
Ashanti	5	2	3	4	2	2	4	2	2	6	2	4
TOTAL ...	19	9	8	20	11	8	20	12	8	24	13	12

7.—SLAUGHTER-HOUSES.

Station.	1911.			1912.			1913.			1914.		
	Number.	Paved and Drained.	Unpaved.	Number.	Paved and Drained.	Unpaved.	Number.	Paved and Drained.	Unpaved.	Number.	Paved and Drained.	Unpaved.
Accra	1	1	—	1	1	—	1	1	—	1	1	—
Addah	—	—	—	—	—	—	—	—	—	—	—	—
Akuse	2	1	1	2	1	1	2	1	1	3	2	1
Quittah	1	1	—	2	2	—	2	2	—	2	2	—
Nsawan	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast... ...	1	1	—	1	1	—	1	1	—	1	1	—
Elmina	—	—	—	—	—	—	—	—	—	—	—	—
Saltpond	—	—	—	1	1	—	1	1	—	1	1	—
Winnebah	—	—	—	1	1	—	1	1	—	1	1	—
Seccondee	1	1	—	2	2	—	2	2	—	2	2	2
Axim	1	1	—	1	1	—	1	1	—	1	1	—
Tarquah	1	1	—	1	1	—	1	1	—	1	1	—
Dunkwa	—	—	—	—	—	—	—	—	—	—	—	—
Coomassie	1	1	—	1	1	—	1	1	—	1	1	—
Obuasi	1	1	—	1	1	—	1	1	—	1	1	—
Kintampo	—	—	—	—	—	—	—	—	—	—	1	1
Sunyani	—	—	—	—	—	—	—	—	—	—	1	1
Eastern Province ...	4	3	1	5	4	1	5	4	1	6	5	1
Central Province ...	1	1	—	3	3	—	3	3	—	3	3	—
Western Province...	3	3	—	4	4	—	4	4	—	5	5	2
Ashanti	2	2	—	2	2	—	3	2	1	5	5	—
TOTAL ...	10	9	1	14	13	1	15	13	2	19	18	3

8.—LATRINES.

Station.	1911.															
	Number.				New Ones.				Repaired.				Demolished.			
	Male.		Female.		Male.		Female.		Male.		Female.		Male.		Female.	
	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.
Accra	42	306	25	238	6	87	6	87	9	—	9	1	6	79	4	39
Addah	6	24	5	20	1	4	—	—	4	16	5	—	—	—	—	—
Akuse	8	48	9	54	—	—	—	—	5	—	5	20	—	—	—	—
Quittah	9	54	8	48	—	—	—	—	4	—	2	—	—	—	—	—
Nsawam... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast ...	19	151	18	149	1	16	1	16	4	—	4	—	1	8	1	8
Elmina	6	47	6	47	—	—	—	—	—	—	—	—	—	—	—	—
Saltpond ...	12	57	12	58	—	—	2	12	—	—	—	—	—	—	—	—
Winnebah ...	9	69	9	69	—	—	—	—	3	—	1	—	—	—	—	—
Seccondee ...	17	112	9	63	2	12	—	—	—	—	—	—	—	—	—	—
Axim	7	61	7	54	2	—	—	—	1	—	1	—	—	—	—	—
Tarquah... ...	11	77	6	48	2	14	—	—	—	—	—	—	—	—	—	—
Dunkwa... ...	5	—	4	—	15	—	15	—	—	—	—	—	15	—	15	—
Coomassie ...	28	153	28	140	2	10	—	—	2	12	2	12	—	—	—	—
Obuasi ...	8	60	8	60	5	38	5	38	—	—	—	—	2	14	2	14
Kintampo ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunyani ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	65	432	47	360	7	91	6	87	22	16	21	20	6	79	4	39
Central Province	46	324	45	323	1	16	3	28	7	—	5	—	1	8	1	8
Western Province	40	250	26	168	21	26	15	—	1	—	1	—	15	—	15	—
Ashanti	36	213	36	200	7	48	5	38	2	12	2	12	2	14	2	14
TOTAL ...	187	1219	154	1048	36	181	29	153	32	28	29	32	24	101	22	61

Station.	1912.															
	Number.				New Ones.				Repaired.				Demolished.			
	Male.		Female.		Male.		Female.		Male.		Female.		Male.		Female.	
	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.
Accra	44	324	27	256	2	30	2	30	—	—	—	—	1	6	1	12
Addah	6	24	5	20	—	—	—	—	—	—	—	—	—	—	—	—
Akuse	8	48	7	42	—	—	—	—	—	—	—	—	—	—	—	—
Quittah	9	54	8	48	—	—	—	—	—	—	2	—	—	—	—	—
Nsawam... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast ...	22	156	16	156	1	30	1	30	9	—	8	—	3	8	3	8
Elmina	6	47	6	47	—	—	—	—	—	—	—	—	—	—	—	—
Saltpond ...	14	80	13	94	1	4	—	—	1	6	1	6	—	—	—	—
Winnebah ...	9	36	8	40	1	In	buil	ding	4	14	5	25	—	—	—	—
Seccondee ...	21	100	10	61	2	4	2	14	3	—	2	—	1	6	—	—
Axim	9	81	9	60	1	8	1	8	—	—	—	—	—	—	—	—
Tarquah... ...	12	74	6	48	—	—	—	—	15	—	—	—	—	—	—	—
Dunkwa... ...	2	12	2	12	16	16	12	16	10	16	7	16	16	16	12	16
Coomassie ...	28	153	28	140	—	—	—	—	—	—	24	—	—	—	—	—
Obuasi ...	7	54	7	54	1	12	1	12	7	—	7	—	—	—	—	—
Kintampo ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunyani ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	77	450	47	366	2	30	2	30	—	—	2	—	1	6	1	12
Central Province	51	319	43	337	3	34	1	30	14	20	14	31	3	8	3	8
Western Province	44	267	27	181	19	28	15	38	28	16	9	16	17	22	12	16
Ashanti	35	207	35	194	1	12	1	12	7	—	31	—	—	—	—	—
TOTAL ...	207	1243	152	1073	25	104	19	110	49	36	56	47	21	36	16	36

Station.	1913.															
	Number.				New Ones.				Repaired.				Demolished.			
	Male.		Female.		Male.		Female.		Male.		Female.		Male.		Female.	
	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.
Accra	22	250	16	161	3	66	1	12	2	18	2	36	—	—	—	—
Addah	6	24	5	20	—	—	—	—	—	—	—	—	—	—	—	—
Akuse	8	48	8	48	—	—	—	—	—	—	—	—	—	—	—	—
Quittah	10	66	9	60	2	16	1	12	9	—	8	—	1	4	—	—
Nsawam... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast ...	19	160	19	160	1	12	1	12	9	—	9	—	1	8	1	8
Elmina	6	47	6	47	—	—	—	—	—	—	1	—	—	—	—	—
Saltpond ...	14	85	13	82	—	—	—	—	7	35	5	21	1	5	—	—
Winnebah ...	8	32	9	42	—	—	—	—	—	—	—	—	—	—	—	—
Seccondee ...	18	105	12	73	4	32	3	28	15	73	9	45	3	16	3	12
Axim	9	23	10	23	—	—	—	—	6	—	—	—	—	—	—	—
Tarquah... ...	12	65	7	38	—	—	—	—	—	—	—	—	—	—	—	—
Dunkwa... ...	2	24	2	24	—	—	—	—	5	—	5	—	5	30	5	30
Coomassie ...	30	204	30	204	6	40	6	40	—	—	—	—	2	16	2	16
Obuasi ...	7	50	7	50	—	—	—	—	—	—	—	—	—	—	—	—
Kintampo ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunyani ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	46	392	38	289	5	82	2	24	11	18	10	36	1	4	—	—
Central Province	47	324	47	331	1	12	1	12	16	35	15	21	2	13	1	8
Western Province	41	217	31	158	4	32	3	28	26	73	14	45	8	46	8	42
Ashanti	37	254	37	254	6	40	6	40	—	—	—	—	2	16	2	16
TOTAL ...	171	1187	153	1032	16	161	12	104	53	126	39	102	13	79	11	66

Station.	1914.															
	Number.				New Ones.				Repaired.				Demolished.			
	Male.		Female.		Male.		Female.		Male.		Female.		Male.		Female.	
	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.	Number.	Seats.
Accra	41	434	33	253	21	132	20	120	—	—	—	—	4	48	4	48
Addah	6	4	5	4	—	—	—	—	—	—	1	4	—	—	—	—
Akuse	8	48	8	40	—	—	—	—	—	—	—	—	—	—	—	—
Quittah	12	76	10	60	2	10	1	6	—	—	—	—	—	—	—	—
Nsawam... ...	5	—	5	--	11	—	10	—	—	—	—	16	—	15	—	—
Cape Coast ...	15	160	15	160	—	—	—	—	14	—	13	—	1	8	1	8
Elmina	6	47	6	47	—	—	—	—	1	—	—	—	—	—	—	—
Saltpond ...	16	91	15	85	3	12	3	12	3	15	1	6	1	6	—	—
Winnebah ...	9	—	9	—	1	—	1	—	2	—	1	—	—	—	—	—
Seccondee ...	12	102	8	64	3	14	3	14	5	45	6	54	3	14	3	14
Axim	8	—	9	—	—	—	—	—	—	—	—	—	—	—	1	—
Tarquah... ...	11	57	8	41	—	—	—	—	3	18	2	12	—	—	—	—
Dunkwa... ...	2	16	2	16	2	24	2	24	5	—	1	—	5	—	1	—
Coomassie ...	28	186	27	83	11	92	11	92	2	6	2	6	12	81	11	77
Obuasi ...	7	49	7	49	—	—	—	—	1	—	—	—	—	—	—	—
Kintampo ...	16	—	14	—	15	—	14	—	—	—	—	—	16	—	14	—
Sunyani ...	17	2	8	—	10	—	4	—	7	—	4	—	7	—	4	—
Eastern Province	—	—	—	--	—	—	—	—	—	—	—	—	—	—	—	—
Central Province	46	298	35	292	4	12	4	12	20	15	15	6	2	29	1	8
Western Province	33	175	27	121	5	38	5	38	13	63	9	66	8	14	5	14
Ashanti	68	238	56	232	36	92	29	92	10	6	6	6	35	18	29	77
TOTAL ...	219	1272	289	1002	79	284	69	268	43	84	31	98	49	172	39	147

8.—LATRINES (PRIVATE).

	1911.									1912.								
	Number.	Pails removed daily.	Number of clean pails substituted for dirty ones.	Number of night-soil men.	Cesspools.	Cesspools cleansed.	New cesspools.	Cesspools abolished.	Cesspools regularly oiled.	Number.	Pails removed daily.	Number of clean pails substituted for dirty ones.	Number of night-soil men.	Cesspools.	Cesspools cleansed.	New cesspoo's.	Cesspools abolished.	Cesspools regularly oiled.
Accra	150	306	can't say	35	—	—	—	—	—	157–160	Abt. 300	—	40	—	—	—	—	—
Addah	9	114	—	5	—	—	—	—	—	9	108	—	8	—	—	—	—	—
Akuse	15	66	—	8	4	4	—	1	—	15	67	—	prisnrs. 8	—	—	—	4	—
Quittah	142	118	—	7	—	—	—	—	—	79	118	—	8	2	—	—	—	—
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast	88	—	—	—	—	—	—	—	—	76	747	—	32	—	—	—	—	—
Elmina	2	94	—	6	—	—	—	—	—	3	94	—	prisnrs. 8	—	—	—	—	—
Saltpond	13	98·8	—	11	—	—	—	—	—	15	122·12	6	12	—	—	—	—	—
Winnebah	33	276	—	12	—	—	—	—	—	40	186	—	8	6	1	—	5	1 by owner
Seccondee	66	80	—	20	—	—	—	—	—	85	80	19	20	—	—	—	—	—
Axim	24	143	—	8	—	—	—	—	—	24	165	—	16	—	—	—	—	—
Tarquah	29	122	—	18	—	—	—	—	—	43	122	—	16	—	—	—	—	—
Dunkwa	12	8	8	4	—	—	—	—	—	12	9	—	4	—	—	—	—	—
Coomassie	40	223	293	26	—	—	—	—	—	40	293	—	26	—	—	—	—	—
Obuasi	23	130	—	14	—	—	—	—	—	8	120	—	20	—	—	—	—	—
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	416	604	—	55	4	4	—	1	—	263	593	—	64	2	—	—	4	—
Central Province	136	468·8	—	29	—	—	—	—	—	134	1149 12	6	60	6	1	—	5	1
Western Province	131	353	8	50	—	—	—	—	—	164	376	19	56	—	—	—	—	—
Ashanti	63	353	293	40	—	—	—	—	—	48	413	—	46	—	—	—	—	—
TOTAL	746	1778	301	174	4	4	—	1	—	609	2531·12	25	226	8	1	—	9	1

	1913.									1914.								
	Number.	Pails removed daily.	Number of clean pails substituted for dirty ones.	Number of night-soil men.	Cesspools.	Cesspools cleansed.	New cesspools.	Cesspools abolished.	Cesspools regularly oiled.	Number.	Pails removed daily.	Number of clean pails substituted for dirty ones.	Number of night-soil men.	Cesspools.	Cesspools cleansed.	New cesspools.	Cesspools abolished.	Cesspools regularly oiled.
Accra	316	449	1·5	45	—	—	—	—	—	136	480	—	56	—	—	—	—	—
Addah	9	106	—	8	1	1	—	—	1	9	106	106	8	1	1	—	—	—
Akuse	12	46	—	8	—	—	—	—	—	12	176	—	8	—	—	—	—	—
Quittah	74	144	—	9	—	—	—	2	—	74	144	—	9	—	—	—	—	—
Nsawam	—	—	—	—	—	—	—	—	—	48	48	48	—	—	—	—	—	—
Cape Coast	90	808	—	33	—	—	—	—	—	94	853·33	—	33	—	—	—	1	—
Elmina	11	21	—	1	—	—	—	—	—	11	188	188	8	—	—	—	—	—
Saltpond	18	120·29	·2	11	—	—	—	—	—	24	20·3	—	12	—	—	—	—	—
Winnebah	45	172	29	10	—	—	—	—	—	27	95	—	prisnrs. 12	—	—	—	—	—
Seccondee	82	—	—	28	—	—	—	—	—	74	30	375	—	—	—	—	—	—
Axim	36	157	44	16	—	—	—	—	—	39	112	3	20	—	—	—	—	4
Tarquah	58	122	16	16	—	—	—	—	—	43	116	57	prisnrs. 16	—	—	—	—	—
Dunkwa	19	19	19	4	—	—	—	—	—	24	57	59	8	—	—	—	—	—
Coomassie	87	297	92·135	26	—	—	—	—	—	107	289	108	36	—	—	—	—	—
Obuasi	18	141	—	20	—	—	—	—	—	15	146	17	20	—	—	—	—	—
Sunyani	—	—	—	—	—	—	—	—	—	10	10·6	2	11	—	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	7	8	16	4	—	—	—	—	—
Eastern Province	411	745	1·5	70	1	1	—	2	1	279	954	154	81	1	—	—	—	—
Central Province	164	1121·29	31	55	—	—	—	—	—	156	1156·36	188	65	—	—	—	1	—
Western Province	195	298	79	64	—	—	—	—	—	180	315	488	44	—	—	—	—	4
Ashanti	105	438	135	46	—	—	—	—	—	139	453·6	143	71	—	—	—	—	—
TOTAL	875	2602·29	246·5	235	1	1	—	2	1	754	2878·42	973	261	1	—	—	1	4

9.—REMOVAL OF REFUSE.

Station.	1911.						1912.						1913.						1914.					
	Dustbins.	Carts removing street refuse.	Amount of refuse.	Carts removing refuse from yards and premises.	Amount of refuse from yards and premises.	Men employed.	Dustbins.	Carts removing street refuse.	Amount of refuse.	Carts removing refuse from yards and premises.	Amount of refuse from yards and premises.	Men employed.	Dustbins.	Carts removing street refuse.	Amount of refuse.	Carts removing refuse from yards and premises.	Amount of refuse from yards and premises.	Men employed.	Dustbins.	Carts removing street refuse.	Amount of refuse.	Carts removing refuse from yards and premises.	Amount of refuse from yards and premises.	Men employed.
Accra	40	10	55 carts	—	—	29	46	10	50—60 loads	10—12 trucks privately	See No. 11.	30—45	46	14	66·5	—	—	23	41	15	80	19	4	24
Addah	9	2	18 carts	—	—	6	—	2	28		To dust bin.	10	9	2	18	2	2	10	10	2	18	2	2	10
Akuse	13	3	35 carts & 30 h. loads	—	—	9	4	2	6	—	Remov'd by occpr.	—	4	3	10	3	7	4	4	3	5	3	2	6
Quittah	6	1	1 cart load	2	16 cart loads	8	10	2	½ cart load	2	12 cart loads	9	9	3	½	3	14	9	13	3	½	3	17	9
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	3	—	—	240baskets from yards and streets	10
Cape Coast	60	11	116 cart loads	—	—	32	49	11	76½ cart loads	—	—	33	40	11	71	1	¾ cart load	34	40	11	62·16	1	—	34
Elmina	6	1 cart, 3 barrows	3 carts, 7 barrows	—	—	12	6	1-3 whl. barrows	10 cart loads	—	2 cart loads	13	6	—	2	—	24	13	6	2	52	—	include in street refuse	10·30
Saltpond	14	5	—	—	18	20	14	5	12·9	Same as above	25·6	26	19	6	14·2	6	29·5	20	21	3	30·5	3	49·3	36
Winnebah	18	3	28 cart loads	—	—	8	14	5	12 cart loads	1	1 cart load	4	9	3	16	1	—	6	13	3	17	—	—	6
Seccondee	20	2	6 carts	4	20	50	19	2	4 cart loads	4	23 cart loads	56	18	6	23·5	2	2 cart loads	56	18	8	30	2	4	56
Axim	10	2	12 carts	—	½ cart load	12	13	3	18	—	3	17	13	4	20	—	3	12	14	3	—	—	2	9·12
Tarquah	—	6 wheel barrows	12 carts	6	6 cart loads	8	1 new one for Bungl.	6 wheel barrows	6 wheel barrows	6 wheel barrows	6 wheel barrows	6	—	4 wheel barrows	47	—	13 cart loads	6	2	—	41	—	20	7
Dunkwa	2	—	30 h. loads	—	—	5	4	—	about 36	Nil	80 head loads	6	15	—	38 head loads	—	277 head loads	3	14	—	38	—	227 head loads	3
Coomassie	—	20 wheel barrows	40 wheel barrows	10	30	12	1	20 wheel barrows	83·16 hd. lds.	10	210·39 hd. loads	12	1	6 carts & 14 wheel barrows	74 head loads	—	335·6 hd. loads	34	—	20 wheel barrows	89 head loads	6	288 head loads	27
Obuasi	—	—	14 h. loads	—	641 h. loads	13	—	—	—	—	800 head loads	13	—	—	25 head loads	—	825 hd. loads	16	—	—	25	—	780 head loads	20
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	32 head loads	—	16 head loads	3
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3 head loads	—	8 head loads	4
Eastern Province ...	68	—	—	2	—	52	60	—	—	—	—	64	68	—	—	—	—	46	76	26	103½	27	266	50
Central Province ...	98	—	—	—	—	72	83	—	—	—	—	76	74	—	—	—	—	73	80	19	160·39	4	50·3	116
Western Province ...	32	—	—	10	—	75	37	—	—	—	—	85	46	—	—	—	—	77	48	11·4	109	2	253	87
Ashanti	—	—	—	10	—	25	1	—	—	—	—	25	1	—	—	—	—	50	2	20	149	6	1092	54
TOTAL	198	—	—	22	—	244	181	—	—	—	—	250	189	—	—	—	—	246	206	76·4	54·44	39	1661·3	307

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

Station.	1911.												1912.											
	Buried or Trenched.			Burnt.			Thrown into sea.			Otherwise dealt with.			Buried or Trenched.			Burnt.			Thrown into sea.			Otherwise dealt with.		
	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.
Accra	—	13 C-lds. 55 H-lds.	—	—	58	—	361	—	—	—	—	—	—	40	—	—	—	50–60	—	300	—	1	—	—
Addah	—	12	—	—	6	—	104	—	—	—	—	—	—	15	—	—	—	13	—	108	—	—	—	—
Akuse	60	20	—	—	20	—	—	6	—	—	—	—	67	6	1	—	—	—	—	—	—	—	—	—
Quittah	92	½ H-ld.	—	—	—	—	4½	—	—	—	—	2	89	—	—	—	—	6½	½ H-ld.	29	—	1	—	—
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast	—	—	1/15 H-ld.	—	1	—	609	115 H-lds.	—	—	—	1/9 H-ld.	—	1	1/15 H-ld.	—	—	75⅓	—	747	—	1/7	—	—
Elmina	—	—	—	—	3–9 Bar-lds.	1 H-ld.	94	—	—	—	—	—	—	—	—	—	—	12	1 H-ld.	94	—	—	—	—
Saltpond	—	—	—	—	—	—	98·8	·23·7	4·2	—	—	—	—	47	—	—	—	38·5	—	122·12	—	—	—	—
Winnebah	—	26	—	—	—	—	278	—	—	—	—	—	—	2	—	—	—	12	—	186	—	—	—	—
Seccondee	—	59 H-lds.	—	—	26	—	175	—	4	—	—	—	—	3	—	—	—	24	2	80	—	—	—	—
Axim	—	—	—	—	12½	—	143	—	—	—	—	—	—	—	—	—	—	20	—	186	—	·02	—	—
Tarquah	122	—	—	—	12	2	—	—	—	—	—	—	122	11	2 H-lds.	—	—	—	—	—	—	—	—	—
Dunkwa	4	—	—	—	30 H-lds.	10 H-lds.	—	—	—	—	—	—	9	—	—	120 H-lds.	—	—	12 H-lds.	—	—	—	—	—
Coomassie	293	30	1	1	—	—	—	—	—	—	—	—	287·84	210·39 H-lds.	85·31	—	—	—	—	—	—	—	—	—
Obuasi	130	24	3	3	641	1	—	—	—	—	—	—	120	25	2	80	—	—	—	—	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	152	—	—	—	—	—	465	—	6	—	—	—	156	—	—	—	—	—	—	437	—	2	—	—
Central Province	—	—	—	—	—	—	1079·8	—	4·2	—	—	—	—	—	—	—	—	—	—	1149·12	—	1/9	—	—
Western Province	126	—	—	—	—	—	318	—	4	—	—	—	131	—	—	—	—	—	—	266	—	·02	—	—
Ashanti	423	—	—	—	—	—	—	—	—	—	—	—	327·84	—	—	—	—	—	—	—	—	—	—	—
TOTAL	701	—	—	—	—	—	1862·8	—	14·2	—	—	—	614·84	—	—	—	—	—	—	1852·12	—	2·16	—	—

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL—*continued*.

Station.	1913.												1914.											
	Buried or Trenched.			Burnt.			Thrown into sea.			Otherwise dealt with.			Buried or Trenched.			Burnt.			Thrown into sea.			Otherwise dealt with.		
	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.	Pails excreta per day.	Cartloads refuse per day.	Cartloads offal per day.
Accra	—	31	—	—	49	—	449	—	—	—	—	—	—	—	—	—	—	—	—	33	—	480	50	2
Addah	—	—	—	—	20	—	106	—	—	—	—	—	—	20	—	—	—	—	—	—	—	—	—	—
Akuse	46	6	10	—	—	—	—	—	—	—	—	—	176	10	1	—	—	—	—	—	—	—	—	—
Quittah	—	—	1½	—	6½	—	144	—	½ H-ld.	—	—	—	—	—	3	—	10	4	144	—	—	—	—	—
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	48	240	—	—	—	—	—	—	—	—	—	—
Cape Coast	—	1	1-15 H-ld.	—	70	—	808	—	1/7	—	—	—	—	1	1/15 H-ld.	—	61·16	858·33	—	—	1/7	—	—	—
Elmina	—	—	1 H-ld.	—	24	—	—	—	—	—	—	—	—	52	—	—	—	—	188	—	—	—	—	1 H-ld.
Saltpond	—	—	—	—	43·7	4·2	132·9	—	—	—	—	—	—	—	—	—	52·4	—	132·43	—	—	—	—	3·5
Winnebah	—	—	3	—	16	—	172	—	—	—	—	—	—	—	—	28	—	3	67	—	16·18	—	—	2 market, 1 Sl'ghter house.
Seccondee	—	—	—	—	23½	—	154	—	2 Bucke	— ts full	—	—	—	—	—	—	—	—	80	27·3	1·5	—	—	—
Axim	—	—	—	—	20	—	157	—	2	—	—	—	11·2	38	1H-ld.	—	—	—	—	—	—	—	—	—
Tarquah	122	11	2 H-lds.	—	—	—	—	—	—	—	—	—	120	40	1·8	—	—	—	—	—	—	—	—	—
Dunkwa	19	199 H-lds.	1 H-ld.	—	257	2	—	—	—	—	—	—	62	248	1	—	27	2	—	—	—	—	—	—
Coomassie	297	429·6	19	—	—	—	—	—	—	—	—	—	—	—	28	289	—	—	379	—	—	—	—	—
Obuasi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	146	780	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	8	16	2	—	16	—	—	—	—	—	—	—
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	11	2·4	5	—	22	1·4	—	—	—	—	—	—
Eastern Province	46	—	—	—	—	—	699	—	—	—	—	—	224	270	4	—	10	4	144	33	—	480	50	2
Central Province	—	—	—	—	—	—	1206·9	—	—	—	—	—	19·5	53	1/15	28	113·16	3	1241·76	—	17·23	—	—	7·5
Western Province	141	—	—	—	—	—	311	—	—	—	—	—	19	326	3·8	—	27	2	80	27·3	—	—	—	—
Ashanti	297	—	—	—	—	—	—	—	—	—	—	—	—	18·4	35	289	38	1·1	525	780	—	—	—	—
TOTAL	484	—	—	—	—	—	2216·9	—	—	—	—	—	438	667·4	3814	317	188·16	10·1	1846·76	840·3	17·23	480	50	9·5

11.—CARTLOADS OF CANS, BOTTLES, AND INCOMBUSTIBLE MATERIAL FROM HOUSES, HUTS AND COMPOUNDS.

Station.	1911.	1912.	1913.	1914.
Accra	55 head-loads	40	13·5	14
Addah	15	15	2	2
Akuse	—	—	6	2 cart-loads
Quittah	½	½	6	6
Nsawam... ...	—	—	—	40 buckets
Cape Coast ...	—	—	¾	1 cartload
Elmina	—	—	11	15
Saltpond ...	—	3·1	4·5	16·9 buried
Winnebah ...	2	4	2	3
Seccondee ...	59 head-loads	3	2	4
Axim	2	3	3	5
Tarquah... ...	60 head-loads	36 head-loads	50 head-loads	57
Dunkwa ...	16 do.	20 do.	12 do.	12
Coomassie ...	2	3	3	22 head-loads
Obuasi	24 head-loads	25 head-loads	—	25
Kintampo ...	—	—	—	4
Sunyani	—	—	—	2·5 head-loads
Eastern Province	—	—	—	—
Central Province	—	—	—	—
Western Province	—	—	—	—
Ashanti... ...	—	—	—	—
TOTAL ...	—	—	—	—

12.—WATER SUPPLY.

Station.	PIPE-BORNE WATER.				WELLS.				TANKS.															BARRELS.	
					Public.		Private.		Public.						Private.						Native.				
	Source.	Linear yards.	Public stand pipes.	Private stand pipes.	No.	M.P., &c.	No.	M.P., &c.	Under-ground.	M.P., &c., pump.	Above ground.	M.P.	400 gallons or less.	Above 400 gallons.	Under-ground.	M.P., &c., pump.	Above ground.	M.P.	400 gallons or less.	Above 400 gallons.	Wood.	Iron.	Con-crete.	No.	M.P.
Accra	River.	Not known.			—	180	157	20	19	77	—	77	—	77	—	157	155	170	90	308	26	144	157	1,050	800
Addah	—	—	—	—	7	—	10	—	2	—	10	10	—	12	3	3	5	5	—	8	2	18	2	8	8
Akuse	—	—	—	—	—	—	—	—	—	—	12	12	3	9	4	4	12	12	4	12	4	8	4	110	98
Quittah	—	—	—	—	6	6	63	3	—	—	—	—	—	—	5	5	19	19	7	8	—	19	7	180	180
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	23	21	21	24	3	22	2	78	78
Cape Coast... ...	—	—	—	—	8	4	231	214	14	13	6	6	—	20	54	47	114	114	87	81	8	104	2	422	391
Elmina	—	—	—	—	3	3	16	15	5	3	1	1	1	5	25	25	61	61	No record.		1	60	25	301	301
Saltpond	—	—	—	—	5	1	17	16	3	3	4	4	—	4	14	—	75	—	57	18	12	63	14	158	—
Winnebah	—	—	—	—	1	—	37	37	—	—	—	—	—	—	19	19	160	160	160	8	21	160	1	109	109
Seccondee	—	—	—	—	6	6	62	62	—	—	—	—	—	—	21	21	20	20	—	103	7	—	12	600	600
Axim	—	—	—	—	7	7	29	29	1	1	9	9	4	5	1	1	58	58	43	16	1	57	1	121	121
Tarquah	—	—	—	—	7	6	69	7	—	—	—	—	—	—	3	3	59	53	31	28	9	48	5	138	138
Dunkwa	—	—	—	—	—	—	23	—	—	—	—	—	—	—	—	15	14	—	—	—	2	14	—	18	18
Coomassie	—	—	—	—	11	6	78	78	—	—	—	—	—	—	1	1	32	32	15	17	7	24	1	54	42
Obuasi	Spring	2,256	16	3	—	—	—	—	—	—	—	—	—	—	14	—	—	—	—	—	—	14	—	12	12
Kintampo	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunyani	—	—	—	—	5	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province ...	—	—	—	—	13	168	230	23	21	77	22	99	3	98	14	171	214	227	122	360	35	211	172	1,426	1,164
Central Province ...	—	—	—	—	17	8	301	282	22	19	11	11	1	29	112	98	410	335	204	107	42	387	42	990	801
Western Province...	—	—	—	—	20	19	183	98	1	—	9	9	4	5	25	40	151	131	74	147	19	119	18	877	877
Ashanti	—	2,256	16	3	16	9	79	79	—	1	—	—	—	—	15	1	32	32	15	17	7	28	1	68	54
TOTAL ...	—	2,256	16	3	66	204	793	689	44	97	42	119	8	132	166	310	807	725	415	571	103	745	233	3,361	2,896

13.—DRAINAGE (PUBLIC).

Station.	1911.				1912.				1913.				1914.				1911.			1912.			1913.			1914.		
	MASONRY DRAINS.																EARTH DRAINS.											
	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards.	Lineal yards. reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.
Accra	9109	1288	93	1109	16014	650	220	6905	16664	—	—	1304	24749	—	—	8085	10459	9727	Every 2 months.	15620	7942	Every 3 months.	3099	1149	Every two months.	Roads Dept.	Roads Dept.	5 times quarterly.
Addah	5	5	—	—	5	—	—	—	5	—	—	—	5	—	—	—	600	250	Quarterly.	600	—	2 monthly.	600	—	Quarterly.	200	—	—
Akuse	151	—	—	75	151	—	—	—	—	—	—	—	—	—	—	—	11546	3601	Monthly.	395706	7099	Monthly.	Unknown.		Daily.	2980	—	—
Quittah	724	—	—	30	—	—	—	—	1234	—	—	394	1232	—	—	—	—	—	—	—	—	—	150	—	3 monthly.	150	—	3
Nsawam... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	218½	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast ...	16666	324	60	828	17066⅔	262	843	269½	17916	367	4688	849½	18625	118⅔	162	709	4935	—	Continuously	3357	50	Continuously	2507	60	Continuously.	300	913	Continuously.
Elmina	—	—	—	—	—	—	—	863	863	—	—	—	803	—	—	—	—	—	—	—	200	Once a year.	—	—	Once a quarter.	—	—	Quarterly.
Saltpond ...	—	—	—	723·6	—	—	—	3145	8295	—	300	400	8295	—	—	—	—	891	—	250	100	Monthly.	805	205	Monthly.	2200	yds. 2116	Weekly.
Winnebah ...	6600	—	—	3580	7237½	15	—	637½	700	—	—	—	—	—	—	156 yds.	9400	3440	Every 2 months.	400	90	Monthly as required.	124	151	Every 3 months in wet season.	2299	10 ft. 71	—
Seccondee ...	8920	—	599	2106	14247	—	274	5327½	—	—	—	—	—	—	—	—	1905	564	Every 2 months.	1215	420	Occasionally.	2000	1000	Every 2 months at intervals.	—	—	—
Axim	—	87	—	—	3088	426	—	500	—	240	—	—	1595	—	—	—	620	40	—	815	—	—	1351	—	At occasions; 4 times.	—	2493	At times.
Tarquah... ...	153709	—	6	107	750709	—	—	—	—	—	—	—	2796	—	—	509	2196⅔	2196⅔	Every fortnight.	24244	3554	Every fortnight.	1106	1969	Every fortnight.	68241	12766	Monthly.
Dunkwa... ...	—	—	—	—	—	—	—	—	—	—	—	246	—	—	—	246	—	—	Once a quarter.	633·3	633·3	About monthly.	6418	317	Monthly.	317	317	Monthly.
Coomassie ...	1760	—	—	140	800	—	451	440	3400	—	—	880	3400	—	—	840 sq. yds.	682803	411	—	16036	510	Monthly.	50751	5167	7 times a month.	8652	—	7 times monthly.
Obuasi	122	—	—	132	—	—	—	—	—	—	—	—	29	12	—	—	24200	—	Monthly.	—	—	—	—	—	—	—	yds. 211	Monthly, &c.
Kintampo ...	—	—	—	—	—	—	—	—	—	—	—	—	200	—	—	—	—	—	—	—	—	—	—	—	—	3757	2116	Fortnightly
Sunyani... ...	—	—	—	—	—	—	—	—	—	—	—	—	200	—	—	yds. 130	—	—	—	—	—	—	—	—	—	5300	2040	6 yearly.
Eastern Province	9989	1293	93	1214	16170	650	220	6905	17903	—	—	1698	25986	—	—	8303½	22605	13578	—	411926	15041	—	3849	1149	—	3330	—	—
Central Province	23266	324	60	5131·6	24304	277	843	4915	27774	367	4988	1249	27723	118⅔	162	865	14335	4331	—	4007	440	—	3436	416	—	5799	3103	—
Western Province	162629	87	605	2213	771044	426	274	5827⅙	—	240	—	246	4391	—	—	755	4721⅔	2800	—	26907·3	4607·3	—	10875	3286	—	7141	15576	—
Ashanti	1882	—	—	272	800	—	451	400	3400	—	—	880	3829	—	—	970	707003	411	—	16036	510	—	50751	5167	—	77210	2467	—
TOTAL ...	197766	1704	758	8830·6	812318	1353	1788	18047⅙	49077	607	4988	4073½	61929	118⅔	162	10893½	748664⅔	21120	—	458876·3	20598·3	—	68911	10018	—	93480	21146	—

13.—Drainage (Private).

Station.	1911.				1912.				1913.				1914.				1911.			1912.			1913.			1914.		
	MASONRY DRAINS.																EARTH DRAINS.											
	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards.	Lineal yards reconstructed.	Lineal yards repaired.	Lineal yards constructed.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.	Lineal yards cleaned.	Lineal yards dug.	Frequency of cleaning.
Accra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Addah	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Akuse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quittah	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cape Coast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elmina	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saltpond	—	—	—	—	—	—	—	23	80	—	—	—	—	97	17	—	—	—	—	—	—	—	—	—	—	—	—	—
Winnebah	120	—	—	—	139	39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Seccondee	—	—	—	—	1,820	—	—	250	1,820	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Axim	—	—	—	—	31	—	—	—	—	—	—	—	—	110	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tarquah	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dunkwa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	—	—	—	—	—	—	—	—	—	—	—	—
Coomassie	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Obuasi	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	700	300	mthly	—	—	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Province	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Central Province	120	—	—	—	139	39	—	62	80	—	—	—	—	97	17	—	—	—	—	—	—	—	—	—	—	—	—	—
Western Province... ...	—	—	—	—	1,851	—	—	250	1,820	—	—	—	—	110	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ashanti	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	700	300	—	—	—	—	—	—	—
TOTAL	120	—	—	—	2,090	39	—	312	1,900	—	—	—	—	207	17	50	—	—	—	700	300	—	—	—	—	—	—	—

14.—CLEARANCE OF UNDERGROWTH, GRASS, WEEDS, ETC.

Station.	1911.		1912.		1913.		1914.	
	Square yards grass, &c., cut and removed.	Frequency of clearance.	Square yards grass, &c., cut and removed.	Frequency of clearance.	Square yards grass, &c., cut and removed.	Frequency of clearance.	Square yards grass, &c., cut and removed.	Frequency of clearance.
Accra	946,960	Every 3 months	1,365,696	As often as required	1,848,653	About every 3 months	1,052,426	3 times monthly or often if required
Addah	20,000	Quarterly	20,000	2-monthly	20,000	Quarterly	1,700	Quarterly
Akuse	248,562	Every 2 months	1,884,827	Monthly	—	Continually being cleared	4,900	Monthly
Quittah	18,962	Once a week	24,042	Twice a year	40,000	6-monthly	29,042	Half-yearly
Nsawam	—	—	—	—	—	—	110 acres	When required
Cape Coast	321,809	Continuously	1,321,214	Continuously	1,204,957	Continuously	4,335,698	Continuously
Elmina	5,987	—	58,806	—	36,360	Once a month	56,617	Monthly
Saltpond	12,704	Monthly	58,837	Daily	53,454	Weekly	—	—
Winnebah	Not recorded	Every 2 months	96,030	3-monthly	24,900	Every 3 months	114,981	Every 2 months
Seccondee	572,791	Quarterly	929,657$\frac{3}{5}$	At intervals as occasion requires.	1,824,939	Quarterly	680,885	Yearly
Axim	236,790	6 times	384,029	—	575,833	6-monthly	404,972	Monthly
Tarquah	899,256	Twice a week	289,980	Twice a quarter	789,090	Twice a quarter	5,574,786	Twice quarterly
Dunkwa	8,000	Quarterly	5,102	About monthly	16,639	Monthly	6,406,802	Monthly
Coomassie	1,904,665	8 times yearly	7,219,785	8 times yearly	6,426,390	Monthly	427,223	Monthly
Obuasi	2,992,059	Monthly	1,800,000	Monthly	3,120,000	Monthly	3,360,000	Continuously
Kintampo	—	—	—	—	—	—	500,000	Monthly
Sunyani	—	—	—	—	—	—	317,000	4 times yearly
Eastern Province	1,234,484	—	3,294,565	—	1,908,653	—	1,088,178	—
Central Province	340,500	—	1,534,887	—	1,319,671	—	4,607,296	—
Western Province	1,716,837	—	1,608,968$\frac{2}{5}$	—	3,204,501	—	13,067,445	—
Ashanti	4,896,724	—	9,019,785	—	9,546,390	—	4,604,223	—
TOTAL	8,188,545	—	15,458,002$\frac{2}{3}$	—	15,979,215	—	23,367,142	—

15.—EXCAVATIONS AND LOW-LYING LAND.

Station.	1911.							1912.							1913.							1914.						
	Pools and Excavations.	Excavations filled up.	Amount of marsh raised and drained.	Pools, Streams, &c., Fish stocked.	Cubic yards material used for filling in.	Persons fined for making excavations.	Men employed daily for filling in.	Pools and Excavations.	Excavations filled up.	Amount of marsh raised and drained.	Pools, Streams, &c., Fish stocked.	Cubic yards material used for filling in.	Persons fined for making excavations.	Men employed daily for filling in.	Pools and Excavations.	Excavations filled up.	Amount of marsh raised and drained.	Pools, Streams, &c., Fish stocked.	Cubic yards material used for filling in.	Persons fined for making excavations.	Men employed daily for filling in.	Pools and Excavations.	Excavations filled up.	Amount of marsh raised and drained.	Pools, Streams, &c., Fish stocked.	Cubic yards material used for filling in.	Persons fined for making excavations.	Men employed daily for filling in.
Accra	—	161	24,520 sq. yds.	144	13,295	—	11	Variable.	68	—	All	—	—	12	Variable.	30	1,873 sq. yds.	6	497	1	5	Variable	26	2,000	—	Not known.	3	7
Addah	14	2	250 sq. yds.	—	—	—	6	5	7	—	—	—	—	10	—	21	42 sq. yds.	—	Not estimated.	—	10	?	23	36	—	—	—	10
Akuse	2	78	174	—	1,249	—	6	—	68	972	—	1,454	—	6	—	28	—	—	—	—	10	39	15	—	—	960	—	6
Quittah	—	—	—	—	—	—	—	14	6	—	1	—	6	—	Hundreds.	10	100 sq. yds.	—	—	—	9	Many.	14	—	—	—	—	9
Nsawan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	—	—	—	3
Cape Coast ...	—	39	470 sq. yds.	—	191	—	6	1	18	—	—	1,726½	—	4–6	carries with rain.	92	5,928	—	5,609	—	11·5	Various.	208	—	—	9,002	—	6·75
Elmina	25	5	500 sq. yds.	—	—	—	—	25	7	—	—	—	—	—	About 25	—	—	6	—	—	—	26 ?	—	—	—	—	—	—
Saltpond	—	—	—	—	—	1	—	—	20	7	—	—	—	—	—	3	552	—	—	—	—	—	20	1,079	—	?	—	1
Winnebah	2	10	10,000 sq. yds.	—	20,000	—	15	116	116	100 sq. yds.	—	—	—	4	15	15	2,590	—	202	—	—	25	22	—	—	263	—	4
Seccondee	125	123	59,817	2	54,503	—	399	153	153	77,826 sq. yds.	—	35,004	—	6	—	200	—	1	—	14	Not stated	—	—	—	—	—	—	—
Axim	—	—	81 sq. yds.	—	—	—	—	—	3	—	—	—	—	—	—	13	—	—	—	—	3	—	9	7	—	4,476	3	—
Tarquah	106	104	2,150 sq. yds.	1	2,150	—	54	186	—	2,150 c. yds.	—	3,854	—	50	585	11	243,591 sq. yds.	—	109	—	4	—	350	749	—	$264\frac{1452}{1769}$	—	—
Dunkwa	31	8	150 sq. yds.	—	60 c. ft.	—	14	230	128	2,920	2	361	48	—	40	—	—	—	—	—	2	373	1 sw'mp	—	—	—	—	—
Coomassie	—	—	100 sq. yds.	—	—	—	—	—	—	600 sq. yds.	—	—	3	—	—	184	1,015	—	1,560	—	6	—	87	814	—	700	—	4
Obuasi	150	13	1,710	—	—	—	40	—	—	—	—	—	—	—	—	—	—	—	—	—	16	76	75	211	—	—	—	—
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	155	52	—	?	—	2
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64	44	2,850	—	83	—	4
Eastern Province ...	16	241	24,944	144	14,544	—	23	19	149	972	1	1,454	6	28	—	89	2,015	6	797	1	—	41	80	2,036	—	960	3	35
Central Province ...	27	54	10,970	—	21,991	1	21	142	161	107	—	1,726½	—	10	40	110	9,070	6	5,811	—	—	51	250	1,079	—	263	—	11·75
Western Province	262	235	62,198	3	56,655·2	—	467	569	284	82,896	2	39,219	48	56	625	224	43,591	1	—	14	—	373	360	756	—	$4{,}740\frac{1452}{1769}$	3	7
Ashanti	150	13	1,810	—	—	—	40	2	—	600	—	—	3	—	—	184	10,125	—	1,560	—	—	140	341	3,927	—	783	-	10
TOTAL ...	455	543	99,922	147	93·90	—	551	732	594	84,575	3	42,399½	—	94	—	607	264,801	—	—	15	76·5	605	1,031	7,798	—	$6{,}746\frac{1452}{1769}$	6	63·75

16.—OILING.

Station.	1911.				1912.				1913.				1914.			
	Drains oiled.	Pools and Excavations oiled.	Tanks and Barrels oiled.	Men employed daily for oiling.	Drains oiled.	Pools and Excavations oiled.	Tanks and Barrels oiled.	Men employed daily for oiling.	Drains oiled.	Pools and Excavations oiled.	Tanks and Barrels oiled.	Men employed daily for oiling.	Drains oiled.	Pools and Excavations oiled.	Tanks and Barrels oiled.	Men employed daily for oiling.
Accra	3,498	5,610	6,313	9	1,440	863	1,485	6	1,006	9,916	2,393	8 average.	1,327	10,000	2,450	8
Addah	—	—	—	—	—	—	—	—	—	—	12	occasionally.	—	—	—	—
Akuse	248	197	270	Various	—	509	—	1	98	152	104	2	262	152	222	2
Quittah	5	—	—	—	—	58	—	—	—	16	2	—	—	Many	—	Scavengers' work
Nsawam	—	—	—	—	—	—	—	—	—	—	—	—	3	—	26	1 when necessary.
Cape Coast	312	299	124	4	243	382	197	4	582	1,124	338	4	282	459	587	4
Elmina	1	—	—	—	—	—	—	1	14	20	—	—	—	No record		—
Saltpond	—	—	522	—	—	64	—	1	—	145	78	—	195	242	540	1
Winnebah	467	322	1,018	2	8	640	124	2	18	32	322	1	78	30	56	2
Seccondee	109	1,126	1,646	5	55	951	709	4	185	1,456	636	4	—	As required		—
Axim...	226	—	—	—	111	—	8	1	56	90	—	2	290	78	75	1·2
Tarquah	24	106	160	1	272	—	—	1	120	885	30	2	4,043	14,521	987	1·6
Dunkwa	28	43	10	2	184	151	108	24	339	1,129	502	1	1,582	3,056	1,052	1
Coomassie	2,920	—	—	—	3,650	260	—	1	2,200	1,264	—	2	775	409	105	3
Obuasi	74	196	12	1	180	24	19	1	153	60	28	1	140	76	—	1
Kintampo	—	—	—	—	—	—	—	—	—	—	—	—	—	134	—	2
Sunyani	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Eastern Province	3,757	5,807	6,583	9	1,440	921 509	1,485 —	7	1,104	10,084	2,511	11	1,592	10,152	2,698	11
Central Province	780	621	1,664	6	251	1,086	321	8	614	1,321	738	5	555	731	1,183	7
Western Province	306	1,275	1,816	8	622	1,102	825	30	700	3,560	1,168	9	5,915	17,655	2,114	3·8
Ashanti	2,994	196	12	1	3,830	284	19	2	2,353	1,324	28	3	916	619	106	6
TOTAL	7,911	7,899	10,075	24	6,143	3,393 509	2,650 —	47	4,771	16,289	4,445	28	8,978	29,157	7,101	27·8

17.—INSPECTIONS AND PROSECUTIONS.

Station.	1913.								1914.						
	Inspectors employed.	Houses inspected.	Houses where larvæ were found.	Notices against larvæ.	Persons fined for larvæ.	Notices re insanitary conditions.	Persons fined for insanitary conditions.	Soda and aerated water factories inspected.	Inspectors employed.	Houses inspected.	Houses where larvæ were found.	Notices against larvæ.	Persons fined for larvæ.	Notices re insanitary conditions.	Persons fined for insanitary conditions.
Accra	10 average	64,889	1,724	2,192	667	1,816	353	—	11	64,500	925	925	574	529	—
Addah	1	8,620	56	47	20	209	21	—	1	4,130	21	107	9	215	151
Akuse	1	4,298	149	149	115	47	—	—	1	6,482	41	349	41	245	55
Quittah	1	3,360	91	151	30	58	12	—	1	2,592	318	408	32	96	1
Dodowah	1	1,621	2	—	2	—	45	—	1	3,813	22	150	15	275	86
Nsawan & Pakro ...	1	612	35	42	35	50	18	—	1	9,844	83	97	83	251	14
Adawso ...	—	3,596	53	—	53	—	132	—	1	2,652	5	47	1	189	101
Komfrodua	—	4,000	1	—	1	—	116	—		4,500	42	96	10	241	245
Aburi ...	1	2,029	1	—	1	—	33	—	1	4,577	38	66	27	263	66
Mampong ...	—	1,793	18	—	18	—	51	—		3,675	19	46	9	277	77
Kpong ...	—	—	—	—	—	—	—	—	—	6,161	87	151	34	200	56
										1,732	9	29	9	140	59
										2,077	4	36	4	205	103
Cape Coast ...	11	20,277	231	288	173	326	80	1	13	27,176	352	541	303	224	3
Elmina	1	3,640	176	8	126	171	11	—	1	1,718	119	118	116	188	169
Winnebah	1	8,100	102	—	69	286	31	—	1	6,984	56	91	55	283	114
Soadru & Nsaba ...	—	—	—	—	—	—	—	—	1	6,984	106	131	35	565	86
Appam	—	—	—	—	—	—	—	—	1	2,781	82	166	2	227	61
Saltpond	1	9,930	38	10	46	60	4	—	1	11,004	40	67	33	105	9
Seccondee	9	57,064	342	1,416	342	888	211	—	7	98,401	227	—	227	1,386	341
Axim	1	4,927	32	7	27	76	29	—	1	3,617	36	75	32	90	39
Tarquah	1	6,185	60	189	32	330	112	—	1	4,678	60	296	29	69	40
Dunkwa	1	6,876	35	35	36	44	73	—	1	3,929	10	27	—	81	—
Coomassie	3	89,263	241	198	241	188	493	1	3	16,477	307	31	307	151	935
Obuasi	2	98,519	—	—	367	45	29	—	2	108,612	19	—	19	10	279
Kintampo	—	3,360	30	8	36	—	—	—	1	7,020	10	35	10	137	39
Sunyani	—	1,915	76	76	—	90	27	—	1	3,776	98	98	15	105	28
Tamale	1	6,374	62	3	46	22	—	—	1	9,906	36	—	—	24	50
Wa	1	32,338	309	164	1	482	120	—	1	11,846	134	231	3	191	39
Gambaga	—	303	8	—	—	—	2	—	—	187	15	—	—	18	19
Salaga	1	6,908	43	43	—	908	21	—	—	8,822	168	168	—	2,240	58
Bole	—	597	64	64	64	22	12	—	1	1,264	29	29	29	80	61
Tumu	—	1,010	—	Gen'l warning.	—	Gen'l warning.	—	—	—	1,200	—	—	30	17	2
Zouarugu	—	—	—		—		—	—	—	7,308	8	30	—	88	7
Bawku	—	500	9	—	6	—	—	—	—	—	—	—	—	—	—
Lorha	Medical Officer inspected premises. Notices are applicable to the community.				4	—	—	—	—	1,316	4	2	1	—	24
Eastern Province ...	16	94,818	2,130	2,481	942	2,180	781	—	18	116,735	1,614	2,507	848	3,126	1,014
Central Province ...	14	41,947	547	306	414	842	126	1	18	56,647	755	1,114	544	1,626	442
Western Province	12	75,052	469	1,647	437	1,338	425	—	9	110,625	333	398	288	1,545	420
Ashanti	5	193,057	382	317	313	367	622	1	8	135,885	434	164	351	403	1,281
Northern Territories	3	48,030	495	274	121	1,434	155	—	3	42,349	394	360	63	2,628	318
TOTAL	50	452,904	4,023	5,025	2,227	6,161	2,107	2	56	462,241	3,530	4,513	2,094	9,328	3,475

TABLE V.

THE METEOROLOGICAL OBSERVATIONS TAKEN AT THE STATIONS MENTIONED, DURING THE YEAR 1914.

STATION.	TEMPERATURE.						RAINFALL.		WIND.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
Accra... ...	146·35	71·91	85·90	72·66	13·24	79·28	24·58	77·48	S.W.	...	
Aburi ...	137·66	68·87	82·45	67·84	14·61	75·14	37·52	88·25	S.W.	...	
Addah ...	—	69·51	84·44	75·40	9·04	79·92	41·62	82·03	...	...	
Quittah ...	139·29	77·03	89·32	72·21	17·11	80·76	30·11	76·33	...	...	
Cape Coast ...	143·65	66·85	85·43	71·57	13·86	78·50	27·08	79·84	...	...	
Seccondee ...	139·49	73·41	88·33	72·43	15·90	80·38	46·32	56·88	...	...	
Axim.. ...	131·84	72·34	82·20	67·17	15·03	74·68	116·98	91·63	...	...	
Tarquah ...	148·53	64·09	90·10	70·43	19·67	80·26	41·97	79·43	...	...	
Coomassie ...	148·98	66·84	88·71	71·88	16·83	80·29	44·52	83·53	...	...	
Kintampo ...	153·92	71·51	93·79	70·09	23·70	81·94	55·00	59·97	...	...	
Sunyani ...	135·79	57·45	89·24	63·72	25·52	76·48	43·50	80·28	...	...	
Gambaga ...	...	70·04	92·00	71·85	20·15	81·92	30·65	52·12	...	...	
Tamale ...	150·28	67·71	96·42	71·69	24·73	84·05	34·30	68·36	...	...	

TABLE VI.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1914.

Diseases.	Remaining in Hospital at end of 1913.	Yearly Total.		Total Cases treated.	Remaining in Hospital at end of 1914.	Remarks.
		Admissions.	Deaths.			
INFECTIVE DISEASES.						
Beri-Beri	1	7	—	8	1	
Chicken-Pox	—	152	—	152	1	
Dysentery	2	171	15	173	1	
Enteric	—	6	1	6	—	
Erysipelas	—	4	—	4	—	
Gonorrhœa	1	60	—	61	—	
Leprosy—						
(*a*) Nodular	—	6	—	6	6	
(*b*) Anæsthetic ...	—	1	—	1	1	
Malaria—						
(*a*) Tertian	—	61	2	61	1	
(*b*) Quartan	—	28	—	28	1	
(*c*) Aestivo-Autumnal	2	81	3	83	—	
(*d*) Chronic Malaria	—	15	—	15	—	
(*e*) Blackwater ...	—	19	5	19	1	
(*f*) Unclassified ...	2	167	—	169	3	
Measles	—	5	—	5	—	
Mumps	4	11	—	15	—	
Pneumonia	4	103	34	107	5	
Pyrexia	—	23	—	23	—	
Rötheln	—	2	—	2	—	
Rheumatic Fever ...	2	6	—	8	—	
Septicæmia	—	19	8	19	1	
Trypanosomiasis (Sleeping Sickness)	1	5	5	6	—	
Small-Pox	1	15	1	16	1	
" " Contacts ...	—	5	—	5	1	
Syphilis—						
(*a*) Primary	—	15	—	15	1	
(*b*) Secondary ...	2	17	—	19	—	
(*c*) Tertiary	—	3	2	3	—	
Tetanus	—	10	5	10	—	
Tuberculosis	1	47	21	48	2	
Yaws	1	11	1	12	—	
Yellow Fever	—	8	4	8	—	
INTOXICATIONS.						
Alcoholism	—	6	—	6	—	
Morphinism	—	1	—	1	—	
GENERAL DISEASES.						
Anæmia	—	10	1	10	—	
Anæmia—Pernicious ...	—	2	1	2	—	
Debility	1	21	3	22	2	
Rheumatism, Chronic ...	—	75	—	75	—	

Diseases.	Remaining in Hospital at end of 1913.	Yearly Total.		Total Cases treated.	Remaining in Hospital at end of 1914.	Remarks.
		Admissions.	Deaths.			
LOCAL DISEASES.						
Diseases of the Nervous System :—						
Sub-section 1.						
Neuritis	—	5	2	5	—	
Meningitis	1	12	6	13	—	
Myelitis	—	1	—	1	1	
Insomnia	—	1	—	1	—	
Neurasthenia	1	7	—	8	—	
Sub-section 2.						
Apoplexy	—	4	2	4	—	
Paralysis...	—	13	4	13	1	
Locomotor Ataxia ...	—	2	—	2	—	
Epilepsy	1	15	1	16	1	
Neuralgia	—	3	—	3	—	
Hysteria	—	4	—	4	—	
Sub-section 3.						
Mental Diseases :—						
Melancholia ...	—	1	—	1	—	
Dementia	—	2	1	2	—	
Delusional Insanity	—	1	—	1	—	
Diseases of the Eye :—						
Conjunctivitis ...	1	19	—	20	—	
Keratitis	—	1	—	1	—	
Ulceration of Cornea	—	6	—	6	—	
Iritis	—	5	—	5	—	
Optic Neuritis ...	1	—	—	1	—	
Cataract	—	1	—	1	1	
Other Diseases ...	—	11	—	11	—	
Diseases of the Ear :—						
Inflammation ...	1	9	—	10	—	
Diseases of the Nose ...	—	2	—	2	—	
Diseases of the Circulatory System :—						
Pericarditis ...	—	8	5	8	—	
Endocarditis ...	—	5	—	5	—	
Valvular Mitral ...	—	9	3	9	—	
,, Aortic ...	1	7	3	8	—	
Aneurism	—	1	1	1	—	
Other Diseases ...	1	5	—	6	—	
Diseases of the Respiratory System :—						
Laryngitis	—	3	—	3	—	
Bronchitis ...	1	60	2	61	—	
Broncho-Pneumonia	—	6	2	6	—	
Abscess of Lung ...	—	4	1	4	2	
Asthma	—	3	—	3	—	
Haemoptysis ...	—	1	1	1	—	
Pleurisy	3	31	2	34	1	
Empyema	—	2	—	2	1	

Diseases.	Remaining in Hospital at end of 1913.	Yearly Total.		Total Cases treated.	Remaining in Hospital at end of 1914.	Remarks.
		Admissions.	Deaths.			
LOCAL DISEASES—*contd.*						
Diseases of the Digestive System :—						
Stomatitis	—	2	—	2	—	
Caries of Teeth ...	—	1	—	1	—	
Glossitis	—	1	—	1	—	
Sore Throat ...	1	1	—	2	—	
Inflammation of Tonsils	—	6	—	6	1	
Gastritis	—	36	—	36	1	
Dyspepsia	—	5	—	5	—	
Enteritis	2	27	1	29	1	
Appendicitis ...	—	10	1	10	—	
Colitis	—	8	—	8	—	
Ulceration of Intestines	—	3	1	3	—	
Intestinal Obstruction	—	5	3	5	1	
Hernia	2	42	1	44	7	
Diarrhœa	1	121	—	122	—	
Constipation ...	—	23	—	23	—	
Colic	—	29	—	29	—	
Hæmorrhoids ...	—	10	—	10	—	
Pancreatitis ...	—	1	—	1	—	
Hepatitis—Acute ...	—	7	—	7	—	
Abscess of Liver ...	—	23	7	23	—	
Cirrhosis	—	4	2	4	—	
Jaundice	—	3	—	3	1	
Peritonitis	—	4	2	4	—	
Ascites	—	7	1	7	1	
Other Diseases ...	—	9	—	9	1	
Diseases of the Lymphatic System :—						
Splenitis	—	2	—	2	—	
Inflammation of Lymphatic Gland	1	24	—	25	1	
Suppuration of Lymphatic Gland ...	—	18	—	18	2	
Lymphangitis ...	—	8	—	8	—	
Elephantiasis ...	4	23	1	27	3	
Diseases of the Urinary System :—						
Acute Nephritis ...	1	8	4	9	—	
Bright's Disease ...	—	13	5	13	1	
Paralysis of Bladder	—	2	2	2	—	
Calculus Renal ...	—	2	—	2	—	
Cystitis	—	4	—	4	—	
Vesical Calculus ...	—	3	—	3	—	
Other Diseases ...	1	4	—	5	—	

Diseases.	Remaining in Hospital at end of 1913.	Yearly Total.		Total Cases treated.	Remaining in Hospital at end of 1914.	Remarks.
		Admissions.	Deaths.			
LOCAL DISEASES—*contd.*						
Diseases of the Generative System :—						
(Male Organs) :						
Urethritis	—	1	—	1	—	
Stricture	2	15	—	17	—	
Prostatitis	—	1	—	1	—	
Soft Chancre ...	—	7	—	7	—	
Condyloma	—	2	—	2	—	
Inflammation of Scrotum	—	3	—	3	—	
Hydrocele	—	19	—	19	1	
Orchitis	1	14	—	15	—	
Epididymitis ...	—	4	—	4	—	
Abscess of Testicle	—	1	—	1	1	
Phymosis	—	12	—	12	1	
Other Diseases ...	1	2	—	3	—	
(Female Organs) :						
Ovarian Cyst ...	—	1	—	1	—	
Endometritis ...	—	16	—	16	2	
Displacement of Uterus	—	3	—	3	—	
Vaginitis	—	3	—	3	—	
Menorrhagia ...	—	1	—	1	—	
Leucorrhœa ...	—	1	—	1	—	
Abortion	—	8	1	8	—	
Delayed Labour ...	—	4	1	4	—	
Retained Placenta...	—	6	1	6	—	
Puerperal Septicæmia	—	1	—	1	—	
Mastitis	—	3	—	3	—	
Abscess of Breast ...	—	1	—	1	—	
Other Diseases ...	—	14	1	14	—	
Diseases of Organs of Locomotion :—						
Osteitis	2	19	—	21	—	
Arthritis	2	17	—	19	2	
Spondylitis... ...	—	2	—	2	—	
Bursitis	—	17	—	17	1	
Synovitis	—	8	—	8	2	
Diseases of Connective Tissue :—						
Cellulitis	—	50	1	50	1	
Abscess	16	112	4	128	5	
Ainhum	—	4	—	4	—	
Diseases of the Skin :—						
Urticaria	—	1	—	1	—	
Eczema	—	5	—	5	—	
Boil...	—	26	—	26	—	
Carbuncle	—	1	—	1	—	
Herpes	—	2	—	2	—	
Ulcers	5	307	2	312	25	
Tinea	—	3	—	3	—	
Scabies	—	2	—	2	—	
Other Diseases ...	—	3	—	3	—	

Diseases.	Remaining in Hospital at end of 1913.	Yearly Total.		Total Cases treated.	Remaining in Hospital at end of 1914.	Remarks
		Admissions.	Deaths.			
Injuries :—						
General	2	63	16	65	3	
Local	16	410	21	426	17	
Surgical Operations :—						
Various	—	15	—	15	—	
Removal of Tumours	—	7	—	7	—	
Circumcision ...	2	18	—	20	—	
Curetting	—	6	—	6	—	
Sequestrotomy ...	—	5	—	5	—	
Amputation ...	1	2	—	3	—	
Hernia, Radical Cure of	1	1	—	2	—	
Tumours :—						
Unclassified ...	—	7	2	7	—	
Lipoma	—	5	—	5	—	
Carcinoma	—	3	1	3	—	
Dermoid Cysts ...	—	2	—	2	2	
Osteoma	—	1	—	1	—	
Chondroma ...	—	1	—	1	—	
Fibroid	—	1	—	1	—	
Epithelioma ...	—	1	1	1	—	
Goitre	—	1	—	1	—	
Poisons	—	13	2	13	—	
Parasitis—Animal :—						
Protozoa	—	3	1	3	—	
Bilharziasis ...	—	2	—	2	—	
Cestoda :—						
Tænia Solium ...	1	2	—	3	—	
Tænia Saginata ...	—	1	—	1	—	
Nematoda :—						
Ascaris	—	7	—	7	—	
Tricocephalus Dispar	—	1	—	1	—	
Dracunculus ...	16	274	—	290	10	
Filariasis	1	3	1	4	—	
Ankylostomiasis ...	—	29	4	29	—	
Insecta :—						
Chiggers	—	6	—	6	—	
Minor Diseases	1	13	—	14	—	
TOTAL ...	120	3,592	239	3,712	131	

TABLE VII.

Return of Diseases (Out-Patients) for the Year 1914.

Diseases.	Male.	Female.
INFECTIVE DISEASES.		
Beri-Beri	57	2
Chicken-Pox	102	12
Dysentery	439	175
Enteric	1	—
Erysipelas	2	—
Gonorrhœa	714	34
Influenza	—	2
Leprosy (*a*) Nodular	21	6
(*b*) Anæsthetic	8	3
Malaria (*a*) Tertian	259	105
(*b*) Quartan	41	15
(*c*) Aestivo-autumnal	373	110
(*d*) Chronic Malaria	48	4
(*e*) Blackwater	1	1
(*f*) Unclassified	1,086	315
Measles	13	4
Mumps	25	5
Pneumonia	109	34
Pyrexia	203	44
Rheumatic Fever	3	2
Septicæmia	43	9
Trypanosomiasis (Sleeping Sickness)	7	—
Small-Pox	6	1
Syphilis (*a*) Primary	85	31
(*b*) Secondary	106	65
(*c*) Inherited	22	9
(*d*) Tertiary	20	14
Tetanus	1	1
Tuberculosis	169	55
Whooping Cough...	28	16
Yaws	432	170
Yellow Fever	7	—
Vaccina	112	11
INTOXICATIONS.		
Alcoholism	4	—

Diseases.	Male.	Female.
GENERAL DISEASES.		
Anæmia	102	135
Debility	253	89
Diabetes	—	2
Goitre	1	1
Gout	6	3
Leucocythæmia	1	—
Rheumatism—Chronic	2,323	631
Purpura	1	—
Rickets	7	2
Scurvy	2	—
LOCAL DISEASES.		
Diseases of the Nervous System...	555	155
,, ,, Eye	1,433	743
,, ,, Ear	581	357
,, ,, Nose	233	42
,, ,, Circulatory System	130	101
,, ,, Respiratory System	3,408	1,218
,, ,, Digestive System	7,472	2,284
,, ,, Lymphatic System	374	110
,, ,, Urinary System	124	35
,, ,, Generative System (Male)	569	—
,, ,, ,, ,, (Female)	—	608
,, ,, Organs of Locomotion	539	165
,, ,, Connective Tissue	968	286
,, ,, Skin	5,727	1,750
INJURIES.		
General	59	18
Local	5,030	780
SURGICAL OPERATIONS	50	4
TUMOURS	123	76
MALFORMATIONS	2	2
POISONS	44	3
PARASITIS...	1,874	651
INSECTA	57	2
MINOR DISEASES	83	5
TOTAL	36,678	11,513

TABLE VIII.

ESTIMATES IN CONNECTION WITH SANITATION, 1914.

Heads of Expenditure.	1913.	1914.	Increase or Decrease 1914.	Remarks.
	£	£	£	
SANITATION.				
Personal Emoluments	9,949	12,109	−2,160	
Other Charges	34,427	41,995	−7,568	
PUBLIC WORKS DEPARTMENT.				
Public Works Extraordinary (Sanitary Improvements)	41,350	37,240	−4,110	£340 under Special Warrant for Big Addah not inserted in general Estimates.
TOTAL	£85,726	£91,344	−5,618	

DISTRIBUTION OF OTHER CHARGES—1913 AND 1914.

Items.	Eastern.		Central.		Western.		Ashanti.		Northern Territories.		Contingencies.		Totals.		Increase or Decrease.
	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.	1914.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Scavengers and Labourers	5,475	8,218	2,690	3,425	2,635	3,552	6,600	7,100	747	747	390	900	19,537	23,942	+ 4,405
Upkeep of Latrines	400	420	250	250	286	286	150	150	100	100	64	44	1,250	1,250	—
Dustbins and Tools	320	320	140	140	140	140	—	—	—	—	—	—	600	600	—
Plague Prevention	120	20	60	15	65	15	—	—	—	—	—	—	250	50	− 200
Yellow Fever Prevention	444	490	245	300	311	310	—	—	—	—	100	—	1,100	1,100	—
Clearing Govt. Lands	1,200	1,200	300	550	900	1,700	—	500	—	—	—	—	2,400	3,950	+ 1,550
Grants-in-Aid	1,000	2,000	2,000	2,000	1,000	1,000	—	—	—	—	—	—	4,000	5,000	+ 1,000
Sanitary Equipment	—	—	—	—	—	—	200	200	150	150	—	—	350	350	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—	—	—	4,940	5,753	+ 813
TOTAL ... £	9,964	12,668	5,685	6,680	5,337	7,003	6,950	7,950	997	997	554	944	34,427	41,995	+ 7,568

TABLE IX.

Annual Return of Anti-Mosquito Works, 1914.

STATION.	Houses Inspected.	Number of Houses with larvæ.	Number of Receptacles with larvæ.	Mosquito Index (1914).	Rainfall.	Mosquito Index (1913).
Accra	59,403	760	846	1·27	24·58	2·65
Addah	4,130	21	21	·50	41·62	·64
Akuse	6,482	41	98	·63	36·86	3·46
Quittah	2,592	318	318	12·26	30·11	2·70
Pram Pram	1,973	14	19	·70	No record.	—
Odumase	1,619	79	80	4·87	Do.	—
Kpong	6,161	87	87	1·41	Do.	—
Somanya	5,769	76	76	1·14	Do.	—
Koforidua	4,500	42	42	·91	Do.	—
Dodowah	3,813	22	34	·57	Do.	—
Aburi	4,577	38	44	·83	37·52	·04
Mampong...	3,675	19	29	·51	No record.	—
Adawso	2,652	5	5	·18	Do.	—
Nsawam	9,844	83	83	·84	45·05	—
Old Mangoase	1,732	9	9	·51	No record.	—
New Mangoase	2,077	4	4	·18	Do.	—
Kibbi	186	9	9	4·83	68·65	—
Cape Coast	27,176	352	385	1·27	27·08	1·13
Elmina	1,718	119	119	6·92	No record.	4·83
Saltpond	11,004	40	63	·36	31·96	·38
Winnebah	6,984	56	56	·80	29·52	1·25
Appam	2,781	82	98	2·94	No record.	—
Soadru	2,178	30	71	1·37	Do.	—
Nsaba	1,555	37	43	2·37	Do.	—
Nyakrom	1,753	23	26	1·31	Do.	—
Kwanyako	1,498	16	17	1·06	Do.	—
Seccondee...	98,401	227	324	·23	46·32	·59
Axim	3,617	36	36	·99	116·98	·64
Tarquah	4,678	60	66	1·28	41·97	·97
Dunkwa	3,929	10	10	·25	54·19	·50
Coomassie...	16,477	307	307	1·86	45·52	·27
Obuasi	108,612	19	27	·01	73·84	·04
Kintampo...	7,020	10	10	·14	55	·78
Sunyani	3,776	98	101	2·59	43·50	3·96
Tamale	9,906	36	48	·36	35·30	·97
Wa	11,846	134	241	1·21	No record.	—
Gambaga	187	15	19	7·89	30·65	—
Salaga	8,822	168	315	1·90	No record.	—
Bole	1,264	29	29	2·29	Do.	—
Lorha	1,316	4	4	·30	Do.	—
Zouaragu	7,808	8	8	·10	Rec. irregular.	—
Tumu	1,200	—	—	—	No record.	—
Bawku	—	—	—	—	—	—
Eastern Province... ...	121,185	1,627	1,794	1·34	—	—
Central Province... ...	56,647	755	878	1·33	—	—
Western Province ...	110,625	333	436	·30	—	—
Ashanti	135,885	434	445	·31	—	—
Northern Territories ...	42,349	394	664	·93	—	—
Total... ...	466,691	3,543	4,217	·75	—	—

TABLE X.

ANNUAL RETURN OF THE RESULT OF PERIODICAL EXAMINATION OF BLOOD-SMEARS TAKEN FROM THE SLAUGHTER-HOUSE OF THE COLONY AND PROTECTORATE FOR THE YEAR 1914.

STATION.	CATTLE.			SHEEP.			GOATS			PIGS.			Percentage in which Trypanosomes were found.				Percentage in which other Parasites were found.				Nature of other Parasites.
	Number examined.	Number in which Trypanosomes were found.	Number in which other Parasites were found.	Number examined.	Number in which Trypanosomes were found.	Number in which other Parasites were found.	Number examined.	Number in which Trypanosomes were found.	Number in which other Parasites were found.	Number examined.	Number in which Trypanosomes were found.	Number in which other Parasites were found.	Cattle.	Sheep.	Goats.	Pigs.	Cattle.	Sheep.	Goats.	Pigs.	
Accra	338	150	1	202	7	2	179	—	—	179	5	—	44·37	3·46	—	2·79	·29	·99	—	—	
Addah	13	—	—	20	—	—	38	—	—	22	—	—	—	—	—	—	—	—	—	—	
Akuse	158	—	—	223	—	—	434	—	—	196	—	—	—	—	—	—	—	—	—	—	
Kpong	9	1	—	5	—	—	4	—	—	5	—	—	11·11	—	—	—	—	—	—	—	
Quittah	6	—	—	28	—	—	17	—	—	12	—	—	—	—	—	—	—	—	—	—	
Cape Coast	11	9	—	72	—	—	50	—	—	7	—	—	81·81	—	—	—	—	—	—	—	
Elmina	—	—	—	7	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	
Saltpond	14	—	—	104	—	—	584	—	—	1	—	—	—	—	—	—	—	—	—	—	
Winnebah	3	3	—	6	—	—	21	—	—	—	—	—	100	—	—	—	—	—	—	—	
Seccondee	101	43	6	41	2	1	95	7	3	31	—	—	42·57	4·87	7·36	—	5·94	2·43	3·15	—	
Axim	16	—	—	62	—	—	102	—	—	12	—	—	—	—	—	—	—	—	—	—	
Tarquah	57	17	2	3	—	—	2	—	—	11	—	1	2·98	—	—	—	3·50	—	—	9·00	
Dunkwa	11	7	—	—	—	—	1	—	—	—	—	—	63·63	—	—	—	—	—	—	—	
Coomassie	146	121	—	57	21	—	76	20	—	8	—	—	82·87	36·84	40·00	—	—	—	—	—	
Obuasi	59	—	—	23	—	—	12	—	—	4	—	—	—	—	—	—	—	—	—	—	
Kintampo	100	33	—	31	9	—	28	3	—	—	—	—	33	29·03	10·71	—	—	—	—	—	
Sunyani	83	40	—	13	—	—	1	—	—	10	—	—	48·19	—	—	—	—	—	—	—	
Tamale	23	1	—	3	—	—	5	—	—	—	—	—	4·34	—	—	—	—	—	—	—	
Wa	87	—	14	8	—	1	4	—	—	—	—	—	—	—	—	—	16·08	12·50	—	—	
Gambaga	33	5	—	30	—	—	19	—	—	—	—	—	15·15	—	—	—	—	—	—	—	
Salaga	55	17	—	11	1	—	20	3	—	—	—	—	30·90	9·09	15·00	—	—	—	—	—	
Bole	27	3	—	10	1	—	—	—	—	—	—	—	11·11	10·00	—	—	—	—	—	—	
Lorha	85	1	—	20	—	—	26	—	—	—	—	—	1·17	—	—	—	—	—	—	—	
Zouaragu	33	1	—	25	—	—	81	—	—	—	—	—	3·03	—	—	—	—	—	—	—	
Tumu	53	7	1	16	—	—	29	—	—	—	—	—	13·20	—	—	—	1·88	—	—	—	
Bawku	15	—	—	15	—	—	15	—	—	—	—	—	—	—	—	—	—	—	—	—	
TOTAL	1536	459	24	1035	41	4	1853	33	3	498	5	1	29·88	3·97	1·78	1·00	1·56	·38	·16	·02	

TABLE XI.

Return shewing the number of the Inmates of the Prisons and Native Hospitals whose stools have been examined microscopically, and tabulating the findings during the Year 1914.

Station.		Tænia Soiium.	Rhabdonema Intestinale.	Tricocephalus Dispar.	Ankylostoma Duodenale.	Uncinaria Americana.	Ascaris Lumbricoides.	Oxyuris Vermicularis.	Other Intestinal Parasites.	Total No. of cases examined.	Remarks.
Accra—	Prison	—	—	—	—	—	2	—	1	3	
	Hospital	—	—	3	7	—	4	3	24	70	
Addah—	Prison	2	—	5	5	—	22	—	—	52	
	Hospital	—	—	—	—	—	2	—	—	6	
Akuse—	Prison	—	—	6	3	—	11	—	3	37	
	Hospital	—	—	2	1	—	12	—	1	29	
Quittah—	Prison	—	—	1	—	—	6	—	—	8	
	Hospital	1	8	25	33	—	71	—	4	114	
Cape Coast—	Prison	6	—	7	—	—	18	2	—	51	
	Hospital	11	—	3	—	—	21	9	—	62	
Elmina—	Prison	1	—	2	—	—	6	—	—	10	
	Hospital	—	—	—	—	—	—	—	—	—	
Saltpond—	Prison	—	—	—	—	—	—	—	—	—	
	Hospital	—	—	—	—	—	—	—	—	3	
Winnebah—	Prison	—	—	2	—	—	2	—	—	3	
	Hospital	1	—	—	4	—	9	—	17	41	
Seccondee—	Prison	7	—	3	9	—	13	—	5	46	
	Hospital	10	—	7	41	—	52	2	47	153	
Axim—	Prison	—	—	—	—	—	4	—	—	7	
	Hospital	—	—	—	—	—	18	1	8	52	
Tarquah—	Prison	—	—	2	2	—	5	—	—	11	
	Hospital	1	—	3	8	—	9	3	1	24	
Dunkwa—	Prison	—	—	—	1	—	3	—	—	18	
	Hospital	—	—	—	—	—	—	—	—	—	
Coomassie—	Prison	1	1	—	—	—	—	—	2	2	
	Hospital	16	2	9	—	4	14	—	8	40	
Obuasi—	Prison	—	—	—	—	—	—	—	—	31	
	Hospital	—	—	—	—	—	—	—	—	8	
Kintampo—	Prison	3	—	4	—	—	11	9	—	35	
	Hospital	7	—	3	—	—	14	8	—	27	
Sunyani—	Prison	1	1	6	2	—	21	—	8	66	
	Hospital	2	2	1	3	—	11	—	4	41	
Tamale—	Prison	3	—	6	4	10	8	3	4	44	
	Hospital	—	—	3	—	—	2	2	—	8	
Wa—	Prison	—	—	—	—	—	—	—	—	—	
	Hospital	7	—	—	1	—	2	1	—	14	
Gambaga—	Prison	3	—	4	—	—	4	—	10	48	
	Hospital	2	—	—	—	—	—	—	—	5	
Salaga—	Prison	—	2	—	6	—	—	—	2	13	
	Hospital	—	—	—	—	—	—	—	3	8	
Bole—	Prison	—	—	—	—	—	—	—	—	3	
	Hospital	1	—	1	—	—	—	—	—	7	
Lorha—	Prison	—	—	—	—	—	—	—	—	—	
	Hospital	—	—	—	—	—	—	—	—	—	
Zouaragu—	Prison	—	—	—	—	—	—	—	—	—	
	Hospital	7	—	8	14	—	3	—	—	75	
Tumu—	Prison	10	—	7	—	—	6	—	—	11	
	Hospital	12	—	8	3	—	7	2	—	18	
Bawku—	Prison	—	—	—	—	—	—	—	—	—	
	Hospital	—	—	—	—	—	—	—	—	—	
Total ...	...	115	16	131	147	14	393	45	152	1,304	

TABLE XII.

SPLEEN RATE RETURNS, 1914.

DISTRICT.	—	AGES OF THOSE EXAMINED.							
		0–1 year.	1–2 years.	2–5 years.	5–10 years.	10–15 years.	15 and upwards.	Totals.	Percentages.
EASTERN PROVINCE.									
Accra ...	Number examined ...	2	7	27	534	573	15	1,158	
	% Normal	...	...	11 %	39 %	57 %	13·3%	539	47 %
	% Small enlargements	100 %	...	33 %	25·2%	21 %	53·3%	275	24 %
	% Medium "	...	28·5%	37 %	22·4%	15 %	33·3%	224	19 %
	% Great "	...	71·5%	19 %	13·4%	7 %	...	120	10 %
Addah ...	Number examined ...	8	24	96	54	20	30	232	
	% Normal	75 %	21 %	21 %	48 %	90 %	93 %	103	44·3%
	% Small enlargements	25 %	67 %	31 %	30 %	10 %	7 %	68	29·3%
	% Medium "	...	8 %	35 %	18 %	...	...	46	20 %
	% Great "	...	4 %	13 %	4 %	...	...	15	6·4%
Akuse ...	Number examined ...	2	3	35	134	134	47	355	
	% Normal	50 %	...	65 %	53 %	84 %	57 %	233	66 %
	% Small enlargements	...	...	23 %	22 %	7 %	11 %	51	14 %
	% Medium "	...	33·3%	6 %	11 %	7 %	28 %	42	12 %
	% Great "	50 %	66·6%	6 %	14 %	2 %	4 %	29	8 %
Quittah ...	Number examined ...	...	...	63	312	477	560	1,412	
	% Normal	...	...	44·4%	68·9%	80 %	92 %	1,140	81 %
	% Small enlargements	...	...	31·7%	20·8%	13 %	7 %	185	13 %
	% Medium "	...	...	17·4%	8·6%	5 %	1 %	67	5 %
	% Great "	...	...	6·4%	1·6%	2 %	...	20	1 %
Nsawam ...	Number examined ...	5	...	44	82	52	26	209	
	% Normal	20 %	...	34 %	49 %	65 %	85 %	112	53 %
	% Small enlargements	40 %	...	31·8%	30 %	29 %	15 %	60	29 %
	% Medium "	20 %	...	29·5%	20 %	6 %	...	33	16 %
	% Great "	20 %	...	4·5%	1 %	...	...	4	2 %
Kibbi ...	Number examined ...	...	30	70	.202	139	...	441	
	% Normal	...	13·3%	30 %	45·5%	67 %	...	210	48 %
	% Small enlargements	...	23·3%	26 %	19·8%	24 %	...	98	22 %
	% Medium "	...	23·3%	31 %	24·7%	5 %	...	86	19 %
	% Great "	...	40 %	13 %	10 %	4 %	...	47	11 %
Somanya ...	Number examined ...	...	...	20	101	58	13	192	
	% Normal	...	...	60 %	35·6%	47 %	46 %	81	42 %
	% Small enlargements	...	...	30 %	34·6%	24 %	31 %	59	31 %
	% Medium "	...	...	5 %	20·7%	26 %	23 %	40	21 %
	% Great "	...	...	5 %	8·8%	3 %	...	12	6 %
Kpong ...	Number examined ...	...	...	26	159	95	51	331	
	% Normal	...	...	54 %	54 %	69·4%	82 %	208	62·8%
	% Small enlargements	...	...	31 %	27 %	18·9%	10 %	75	22·6%
	% Medium "	...	...	11 %	7 %	8·4%	6 %	25	7·5%
	% Great "	...	...	4 %	12 %	3·1%	2 %	23	6·9%
Odumase ...	Number examined ...	...	...	3	63	36	54	156	
	% Normal	...	...	...	36·5%	42 %	87 %	85	54·4%
	% Small enlargements	...	...	33·3%	28·5%	44 %	11 %	41	26·2%
	% Medium "	...	...	33·3%	25·3%	14 %	2 %	23	15 %
	% Great "	...	...	33·3%	9·5%	...	...	7	4·4%

District.	—	Ages of those Examined.							
		0–1 year.	1–2 years.	2–5 years.	5–10 years.	10–15 years.	15 and upwards.	Totals.	Per-centages.
Eastern Province—*contd.*									
Aburi ...	Number examined ...	...	...	26	149	97	23	295	
	% Normal	...	...	54 %	60 %	73·1%	87 %	194	65·7%
	% Small enlargements	...	...	8 %	21 %	16·4%	13 %	52	17·6%
	% Medium ,,	...	...	38 %	18 %	10·3%	...	47	15·9%
	% Great ,,	...	...	...	1 %	...	...	2	·6%
Dodowah ...	Number examined ...	...	...	9	27	74	23	133	
	% Normal	...	...	11·1%	66·6%	74·3%	95·6%	96	72 %
	% Small enlargements	...	...	33·3%	29·6%	23 %	4·3%	29	22 %
	% Medium ,,	...	...	44·4%	3·7%	2·7%	...	7	5 %
	% Great ,,	...	...	11·1%	...	...	...	1	1 %
Central Province.									
Cape Coast ...	Number examined ...	...	...	20	824	1,098	1,312	3,254	
	% Normal	...	...	55 %	57 %	70 %	85·5 %	2,368	73 %
	% Small enlargements	...	...	30 %	33 %	26 %	12 5 %	727	22·3 %
	% Medium ,,	...	...	15 %	8·6 %	4 %	2 %	143	4·3 %
	% Great ,,	...	...	...	1·4 %	...	...	16	·4 %
Elmina ...	Number examined ...	...	...	90	301	215	132	738	
	% Normal	...	...	59 %	65·1 %	67·4 %	94 %	518	70 %
	% Small enlargements	...	...	20 %	19 %	22·3 %	4 %	129	17 %
	% Medium ,,	...	...	15·5 %	11·6 %	9·7 %	1 %	71	10 %
	% Great ,,	...	...	5·5 %	4·3 %	·4 %	1 %	20	3 %
Saltpond ...	Number examined ...	4	4	4	88	322	20	442	
	% Normal	50 %	...	...	59 %	65 %	70 %	278	62·8 %
	% Small enlargements	...	25 %	...	25 %	17 %	20 %	81	18·3 %
	% Medium ,,	50 %	50 %	100 %	16 %	14 %	...	68	15·3 %
	% Great ,,	...	25 %	...	...	4 %	10 %	15	3·3 %
Winnebah ...	Number examined ...	...	...	14	280	206	51	551	
	% Normal	...	...	57 %	76 %	80 %	84·3 %	428	78 %
	% Small enlargements	...	...	36 %	17·5 %	16 %	13·7 %	93	17 %
	% Medium ,,	...	...	7 %	5 %	3 %	2 %	23	4 %
	% Great ,,	...	...	...	1·4 %	1 %	...	7	1 %
Western Province.									
Seccondee ...	Number examined ...	...	...	46	306	340	91	783	
	% Normal	...	...	35 %	47·3 %	65 %	64 %	441	56 %
	% Small enlargements	...	...	33 %	27·4 %	23 %	21 %	198	25 %
	% Medium ,,	...	...	26 %	19·2 %	10 %	12 %	115	15 %
	% Great ,,	...	...	6 %	6 %	2 %	3 %	29	4 %
Axim ...	Number examined ...	7	11	57	113	67	8	263	
	% Normal	29 %	45·4 %	49 %	40·7 %	73·1 %	100 %	138	52·4 %
	% Small enlargements	...	27·2 %	...	1·7 %	25·3 %	...	5	1·9 %
	% Medium ,,	57 %	27·2 %	49 %	57·5 %	1·4 %	...	117	44·4 %
	% Great ,,	14 %	...	2 %	...	...	...	3	1·1 %
Tarquah ...	Number examined ...	...	...	54	125	53	22	254	
	% Normal	...	...	27·7 %	46·4 %	70 %	95·4 %	131	52 %
	% Small enlargements	...	...	29·6 %	30·4 %	20·7 %	4·5 %	66	26 %
	% Medium ,,	...	...	29·6 %	20 %	5·6 %	...	44	17 %
	% Great ,,	...	...	12·9 %	3 2 %	3·7 %	...	13	5 %

District.	—	Ages of those Examined.							
		0–1 year.	1–2 years.	2–5 years.	5–10 years.	10–15 years.	15 and upwards.	Totals.	Percentages.
WESTERN PROVINCE—*contd.*									
Dunkwa ...	Number examined ...	4	5	18	21	1	...	49	
	% Normal	100 %	80 %	50 %	76 %	100 %	...	34	69 %
	% Small enlargements	...	20 %	50 %	19 %	...	...	14	29 %
	% Medium ,,	...	...	...	5 %	...	...	...	...
	% Great ,,	...	...	...	...	...	...	1	2 %
ASHANTI.									
Coomassie ...	Number examined ...	...	...	...	74	125	100	299	
	% Normal	...	...	...	49 %	61·6 %	77 %	190	64 %
	% Small enlargements	...	...	...	21·5 %	24 %	12 %	58	19 %
	% Medium ,,	...	...	...	17·5 %	14·4 %	10 %	41	14 %
	% Great ,,	...	...	...	12 %	...	1 %	10	3 %
Obuasi ...	Number examined ...	2	7	53	199	69	13	343	
	% Normal	50 %	29 %	34 %	59·7 %	65 %	100 %	198	58 %
	% Small enlargements	50 %	57 %	47 %	22·6 %	28 %	...	94	27 %
	% Medium ,,	...	14 %	17 %	13 %	6 %	...	40	12 %
	% Great ,,	...	...	2 %	4·5 %	1 %	...	11	3 %
Kintampo ...	Number examined ...	35	57	144	218	129	44	627	
	% Normal	51·4%	54 %	58 %	62 %	69·7%	89 %	397	63 %
	% Small enlargements	34·2%	37 %	31 %	33 %	21·7%	9 %	180	29 %
	% Medium ,,	14·2%	7 %	9 %	4 %	7·7%	2 %	42	7 %
	% Great ,,	...	2 %	2 %	1 %	·7%	...	8	1 %
Sunyani ...	Number examined ...	...	3	45	46	29	4	127	
	% Normal	...	33·3%	26·6%	37 %	69 %	100 %	54	42·5%
	% Small enlargements	...	33·3%	35·5%	39 %	27·5%	...	43	33·8%
	% Medium ,,	...	33·3%	35·5%	24 %	3·5%	...	29	22·8%
	% Great ,,	...	...	2·2%	...	...	...	1	·7%
NORTHERN TERRITORIES.									
Tamale ...	Number examined ...	...	...	...	52	...	...	52	
	% Normal	...	...	...	69 %	...	...	36	69 %
	% Small enlargements	...	...	...	25 %	...	...	13	25 %
	% Medium ,,	...	...	...	2 %	...	...	1	2 %
	% Great ,,	...	...	...	4 %	...	...	2	4 %
Wa... ...	Number examined ...	2	8	47	136	29	...	222	
	% Normal	50 %	37·5%	36 %	56·6%	86·2%	...	123	55 %
	% Small enlargements	50 %	12·5%	15 %	19·8%	10·3%	...	39	18 %
	% Medium ,,	...	25 %	43 %	20·5%	3·4%	...	51	23 %
	% Great ,,	...	25 %	6 %	2·9%	...	...	9	4 %
Gambaga ...	Number examined ...	3	7	65	104	55	9	243	
	% Normal	66·6%	43 %	47·6%	71 %	78 %	100 %	162	67%
	% Small enlargements	33·3%	43 %	24·6%	19 %	16 %	...	49	20 %
	% Medium ,,	...	14 %	17 %	10 %	2 %	...	23	9 %
	% Great ,,	...	...	10·7%	...	4 %	...	9	4%
Salaga ...	Number examined ...	...	2	92	113	7	...	214	
	% Normal	...	50 %	48 %	46 %	57 %	...	101	47·2%
	% Small enlargements	...	...	28 %	24·7%	29 %	...	56	26·1%
	% Medium ,,	...	...	24 %	25·6%	14 %	...	52	24·2%
	% Great ,,	...	50 %	...	3·5%	...	...	5	2·3%

DISTRICT.	—	AGES OF THOSE EXAMINED							
		0–1 year.	1–2 years.	2–5 years.	5–10 years.	10–15 years.	15 and upwards.	Totals.	Percentages.
NORTHERN TERRITORIES—*contd.*									
Bole ...	Number examined ...	20	14	29	100	24	25	212	
	% Normal	30 %	57 %	52 %	45 %	75 %	84 %	113	53 %
	% Small enlargements	40 %	14 %	17 %	15 %	25 %	4 %	37	17 %
	% Medium „	20 %	29 %	24 %	30 %	...	12 %	48	23 %
	% Great „	10 %	...	7 %	10 %	...	...	14	7 %
Tumu ...	Number examined ...	...	13	44	45	83	21	206	
	% Normal	...	23 %	5 %	22 %	43 %	62 %	61	29·6%
	% Small enlargements	...	77 %	43 %	29 %	18 %	14 %	53	25·7%
	% Medium „	...	...	34 %	27 %	34 %	24 %	70	33·9%
	% Great „	...	...	18 %	22 %	5 %	..	22	10·6%
Zouaragu ...	Number examined ...	2	14	71	203	85	...	375	
	% Normal	...	50 %	59 %	73 %	79 %	...	264	70%
	% Small enlargements	50 %	29 %	30 %	19 %	16 %	...	78	21 %
	% Medium „	50 %	21 %	8 %	7 %	5 %	...	29	8 %
	% Great „	...	...	3 %	1 %	...	...	4	1 %
Lorha ...	Number examined ...	11	32	95	63	...	...	201	
	% Normal	63·6%	43·7%	56 %	83 %	...	...	126	63 %
	% Small enlargements	36·3%	43·7%	35 %	14 %	...	...	60	30 %
	% Medium „	...	12·5%	9 %	3 %	...	...	15	7 %
	% Great „	...	...	...	...	...	...	...	...
EASTERN PROVINCE.	Number examined ...	17	64	419	1817	1755	842	4,914	
	% Normal	41 %	14 %	36 %	50 %	68·4 %	87 %	3,001	61 %
	% Small enlargements	35 %	36 %	28·4 %	25 %	18·3 %	9 %	993	20 %
	% Medium „	12 %	19 %	26·4 %	17 %	9·7 %	3·5 %	640	13 %
	% Great „	12 %	31 %	9 %	8 %	3·4 %	3·5 %	280	6 %
CENTRAL PROVINCE.	Number examined ...	4	4	128	1493	1841	1515	4,985	
	% Normal	50 %	...	56 %	62 %	70 %	86 %	3,592	72 %
	% Small enlargements	...	25 %	23 %	27 %	23 %	11·9 %	1,030	21 %
	% Medium „	50 %	50 %	17 %	9 %	6 %	1·7 %	305	6 %
	% Great „	...	25 %	4 %	2 %	1 %	3 %	58	1 %
WESTERN PROVINCE.	Number examined ...	11	16	175	565	461	121	1,349	
	% Normal	55 %	56 %	39 %	47 %	67 %	72 %	744	55·1 %
	% Small enlargements	...	25 %	23 %	23 %	20 %	17 %	283	21 %
	% Medium „	36 %	19 %	32 %	26 %	11 %	9 %	276	20·5 %
	% Great „	9 %	...	6 %	4 %	2 %	2 %	46	3·4 %
ASHANTI.	Number examined ...	37	67	242	537	352	161	1,396	
	% Normal	51 %	51 %	47 %	57 %	66 %	82 %	839	60 %
	% Small enlargements	35 %	39 %	35 %	28 %	24 %	10 %	375	27 %
	% Medium „	14 %	9 %	16 %	11 %	9 %	7 %	152	11 %
	% Great „	...	1 %	2 %	4 %	1 %	1 %	30	2 %
NORTHERN TERRITORIES.	Number examined ...	38	90	443	816	283	55	1,725	
	% Normal	42 %	40 %	46 %	60·5%	68·1%	78 %	986	57 %
	% Small enlargements	39 %	30 %	29 %	19·9%	17·3%	7 %	385	22 %
	% Medium „	13 %	26·6%	20 %	15·5%	12·3 %	15 %	289	17 %
	% Great „	6 %	3·3%	5 %	3·9%	2·1%	...	65	4 %
TOTAL	Number examined ...	107	241	1,407	5,228	4,692	2,694	14,369	
	% Normal	46·7%	36·5%	43 %	55 %	68·5%	85 %	9,162	64 %
	% Small enlargements	31·7%	33·5%	28 %	25 %	20·6%	11 %	3,066	21 %
	% Medium „	16·8%	19·5%	23 %	15 %	8·7%	3 %	1,662	12 %
	% Great „	4·6%	10·3%	6 %	5 %	2 %	1 %	479	3 %

TABLE XIII.

PRISONS.

Prison.	Average Prison Area per Prisoner.	Average cubic space in Cells per Prisoner.	Average Ventilation Area in Cells per Prisoner.
EASTERN PROVINCE :—			
Accra	15·99	289·83	3·55
Addah	174·28	347·67	2·80
Akuse	219·04	483·75	4·11
Quittah	350	543·24	2·39
CENTRAL PROVINCE :—			
Cape Coast	242·85	380·71	1·18
Elmina	873·55	1386·84	5·89
Saltpond	177·60	496·64	3·87
Winnebah	142·79	373·70	1·67
WESTERN PROVINCE :—			
Seccondee C.P.	448·36	684·13	15·71
Seccondee F.O.	57·84	282·70	2·50
Axim	130·26	412·15	2·66
Tarquah	93·54	365·06	3·29
Dunkwa	22·62	140	·98
ASHANTI :—			
Coomassie	291·13	157·51	1·58
Obuasi	183	328·73	4·41
Sunyani	300	464	5·33
Kintampo	753·75	285	1·04
British Krachi	302·60	465·64	·84

TABLE XIV.

Annual Return of Prosecutions made in the Sanitary Department for the Year 1914.

Station.	Nature of Offence.		Number of Prosecutions.	No. of Convictions.	No. Fined.	Total Amount of Fines.			Number Discharged with Caution.	No. Imprisoned
	Larvæ.	Other Offences.				£	s.	d.		
Accra	587	537	1,124	1,121	1,121	529	9	0	—	—
Addah	9	151	160	158	158	28	3	0	—	—
Akuse	19	128	147	142	139	36	2	6	3	—
Quittah	39	62	101	97	97	13	7	6	—	—
Pram Pram ...	15	66	81	81	81	41	10	0	—	—
Odumase	17	66	83	83	74	17	12	6	9	—
Kpong	35	57	92	91	90	26	2	0	1	—
Somanya	65	34	99	89	89	23	9	6	—	—
Koforidua... ...	10	245	255	255	255	101	2	6	—	—
Dodowah	15	86	101	101	101	61	6	0	—	—
Mampong ...	9	77	86	86	86	57	15	0	—	—
Aburi	27	66	93	93	93	47	15	0	—	—
Adawso	1	101	102	102	102	51	1	6	—	—
Nsawam	80	126	206	206	206	116	5	6	—	—
Old Mangoase ...	9	59	68	68	68	48	4	0	—	—
New Mangoase ...	4	103	107	107	107	70	15	0	—	—
Kibbi	4	9	13	13	13	7	5	0	—	—
Cape Coast ...	303	182	485	483	483	113	8	6	—	—
Elmina	111	243	354	354	336	113	7	9	13	5
Saltpond	36	52	88	85	83	49	7	6	2	—
Winnebah ...	55	116	171	171	171	77	2	0	—	—
Appam	2	72	74	70	63	22	6	0	6	1
Soadru	9	27	36	36	36	13	19	0	—	—
Nsaba	5	16	21	21	21	7	7	6	—	—
Nyakrom	14	5	19	19	19	5	15	0	—	—
Kwanyako ...	7	39	46	45	45	31	12	0	—	—
Seccondee	259	256	515	499	486	186	14	0	13	—
Axim	31	84	115	114	112	82	17	6	2	—
Tarquah	30	84	114	110	85	40	2	6	25	—
Dunkwa	2	57	59	57	44	9	19	0	13	—
Coomassie ...	307	943	1,250	1,250	1,250	362	11	0	—	—
Obuasi	21	291	312	297	273	56	12	6	24	—
Kintampo ...	26	43	69	69	69	35	0	0	—	—
Sunyani	18	52	70	68	54	8	6	0	14	—
Tamale	—	74	74	74	50	6	11	6	24	—
Wa	3	88	91	91	31	4	5	0	60	—
Gambaga	—	19	19	19	19	1	18	6	—	—
Salaga	—	64	64	64	58	12	7	0	6	—
Bole	7	69	76	59	58	9	8	0	—	1
Lorha	1	24	25	25	25	1	18	0	—	—
Zouaragu	—	7	7	7	6	0	9	0	1	—
Tumu	—	11	11	11	2	0	4	0	9	—
Bawku	—	—	—	—	—	—	—	—	—	—
Eastern Province...	945	1,973	2,918	2,893	2,880	1,282	5	6	13	—
Central Province ...	542	752	1,294	1,284	1,257	434	5	3	21	6
Western Province	322	481	803	780	727	319	13	0	53	—
Ashanti	372	1,329	1,701	1,684	1,646	462	9	6	38	—
Northern Territories	11	356	367	350	249	37	1	0	100	1
Total ...	2,192	4,891	7,083	6,991	6,759	£2,535	14	3	225	7

APPENDIX No. 1.

SANITARY IMPROVEMENTS CARRIED OUT IN 1914

EASTERN PROVINCE.

ACCRA.

Amount voted £10,000.—Expenditure £6,344 19s. 11d. or 63·45 %.

1. *Derby Avenue Extension.*

217 lineal yards of 24-foot carriageway was constructed.

2. *Erection of Dustbins.*

Six concrete dustbins were built in Christiansborg, four in Accra and four in Korle Gono.

3. *Abolition of Culvert under Harbour Works Road.*

Owing to the drainage of part of High Street being diverted to the Lagoon, this culvert was no longer necessary and was blocked up, the low-lying ground adjacent being levelled.

4. *Acquisition of Land.*

Land was acquired in Commodore Street, St. Edmunds Road, Hansen Road and Lutterodt Street for street improvements, at Christiansborg for latrines and dustbins, in James Town, Accra, for a new slaughter-house and in Horse Road for an open space.

5. *Open Spaces.*

It was found that five of the approved open spaces would necessitate acquisition. One of these was actually acquired, and negotiations put in hand for the remaining four.

6. *Korle Gono Township.*

The maintenance gang was employed during the year in keeping roads, ditches and open spaces clean. The Winnebah Road was reconstructed for a length of 1,264 lineal yards.

Concrete culverts were constructed across the Winnebah Road at several points, the total length of culverting being 155 lineal yards.

48 lineal yards of 33 in. ovoid main outfall drain were constructed and 88 lineal yards of 21 in. ovoid drain on the south side of Winnebah Road.

7. *Adabraka Township.*

Here also the maintenance gang was generally employed keeping roads, etc., clear of bush and weeds, they also constructed and drained with earth drains 2,105 lineal yards of new roadway.

96 lineal yards of concrete culverts were constructed, also 52 lineal yards of 16 in. ovoid drain on the Nsawam Road.

8. *Riponsville Township.*

The maintenance gang constructed 950 lineal yards of new carriageway in Selbourne and Milner Avenues and 180 lineal yards in Hansen Road. Existing streets were kept weeded and ditches were kept clear.

Eight concrete culverts were constructed, having a total length of 136 lineal yards.

9. *New Slaughter-house.*

A site for the building was acquired on the cliff to the east of the Harbour Works Blockyard. At the end of the year the concrete foundations had been put in.

10. *Water Supply.*

Fifteen concrete water tables were constructed around Pillar Fountains to lead waste water to street drains. Five fountains were removed to more suitable positions. Other fountains situated away from concrete drains were provided with soak away pits, but the sub-strata being very impermeable they were only a qualified success. Three fountains were connected to street drains, these connections involving a length of concrete drain of 100 yards.

11. *Windmill Pump.*

This pump, which supplied the main drain flushing tank in Salaga Market with sea water, was kept in running order, the drain being flushed three times weekly. The iron work of the tower was also painted.

12. *Miscellaneous Works.*

The following minor works were undertaken :—

(*a*) Connecting up lavatories at European Club to the golf course main drain.

(*b*) Sleeper walls to European Club drain.

(*c*) Kerb and channel drain in front of new Post Office.

(*d*) Clearing and regrading open cuts in Station Valley.

(*e*) Repairs to drains and crossings.

(*f*) Hole filling ; demolition of property and other minor works.

13 *Christiansborg Castle Tanks.*

Two open tanks in the Castle grounds were filled in.

Surface Water Drainage.

Concrete surface water drains were laid in the following thoroughfares of the town :—Horse Road, Zion Street, Bannerman Road, Hansen Road, St. Edmunds Road, Commodore Street, Bruce Road, High Street, Ashley Street, Affiana Street, Mills Road, Korlina Road, Muamonah Street, Lane between Muamonah Street and Bannerman Road, Lane between Horse Road and Zion Street, Lane between Russell's Factory and Wesleyan Day School, Main Drain Extension, Orgle Street. The length of permanent concrete drain constructed during the year was 8,760 lineal yards, or approximately 5 miles.

Sewerage.

A new type concrete latrine was designed, convertible into a trough pattern latrine for connection at some future date with the sewerage system. Five of these were erected at Christiansborg and fifteen in Accra.

Reconstruction and Improvement of Town Roads.

276 lineal yards macadam roadway.
3,201 ,, ,, Laterite ,,
225 ,, ,, ,, ,, reconstruction.
2,100 sup. ,, ,, ,, raised to conform with new drain levels between Wesleyan Church and King's Warehouse.

The total length of carriage-way constructed was approximately $4\frac{2}{3}$ miles. A retaining wall in concrete was also constructed in Old Winnebah Road. Length 220 lineal feet, average height 4 ft. 6 in.

Tanks and Wells, Upkeep and Repairs to.

Forty-eight tanks were mosquito-proofed and cleaned during the year. Standard inlets were adopted to replace the variety of sizes formerly in use.

Erection of Type Houses.

Three houses under construction at the end of 1913 were completed and one new house erected at Riponsville.

ADAWSO.

Amount of vote £500. Expenditure £19. 18s. 8d. = 4 %. Owing to lack of supervision only the following minor works were carried out:—

1. Repairs to floor of slaughter-house.
2. Construction of drain at Police Barracks.

ADDAH.

Amount of vote £500. Expenditure £198. 0s. 0d. = 39·6%.

1. Prison drainage carried out.
2. Erection of dustbin.
3. Two new wells provided.

AKUSE.

Amount of vote £500. Expenditure £156. 17s. 6d. = 31·3%.

1. Repairs to latrines.
2. Construction of two culverts in concrete.
3. Construction of slaughter-house.

KOFORIDUA.

Amount of vote £1,000. Expenditure £403. 18s. 10d. = 38%.

1. Drain from Swanzy's factory to Market Place.
2. Drain between Chevalier's and Fischer's store.
3. Concrete diverting wall at dam on drinking water stream.
4. Slaughter-house.
5. Refuse destructor.
6. One dustbin.

NEW MANGOASE.

Amount of vote £500. Expenditure £344. 10s. 1d. = 68·9%.

1. Three market sheds.
2. Roofing pit latrines.
3. Three dustbins.
4. Refuse destructor (not completed).

NSAWAM.

Amount of vote £500. Expenditure £489. 12s. 0d. = 97·8%.

1. Construction of 300 lineal yards concrete drain.
2. Market shed. (Completed except for slating).
3. Fire bars to refuse destructor.

SOMANYA.

Amount of vote £500. Expenditure £431. 4s. 3d. = 86·2%.

1. One twelve-pan latrine.
2. One market shed.
3. One refuse destructor.

DODOWAH.

Amount of vote £250. Expenditure £212. 16s. 11d. = 85·1%.

Three market sheds were constructed.

QUITTAH.

Amount of vote £500. Expenditure £206. 13s. 10d. = 41·34%.

1. Construction of concrete drain at back of Police Station, 36 feet × 6 inches.
2. Providing and fixing two new pumps to wells at Chief Agboso's Farm and Open Space No. 3.
3. Erecting pump and mosquito-proofing well at Danoe.
4. Construction of 74 lineal yards of 2-ft. concrete drain in various streets.
5. Erection of two market sheds.

ABURI.

Amount of special warrant £180. Expenditure £104. 14s. 2d. = 58·2%.

Construction of latrines in Botanical Gardens.

CENTRAL PROVINCE.

CAPE COAST.

Amount of vote £2,000. Expenditure £1,362. 5s. 1d. = 68·11%.

The work carried out under this vote was as follows :—

1. Fixing of four brackets to verandah of House No. 203, Kotokraba Road.
2. Construction of four culverts—Castle Street.
3. Drainage of Cemetery Road.
4. Alteration to line of drain in Castle Street.
5. Widening drain and culverts Tantri Road.
6. Conversion of No. 6 market shed into Public Laundry.
7. Drainage of Kotokraba Road.
8. Repairs to invert of drain Low Town.
9. Dustbins—provision of steps to
10. Extension of lagoon outfall to low water level.
11. Aboom Wells—Construction of concreted area for washing clothes.
12. Kwanapadu Street—extension of drain for 20 yards.
13. Gegem Street—extension of outfall to L.W.M.
14. Platform for emptying night soil to east of town.
15. Kotokraba Road—raising drain walls on path side.
16. Green Lattice Lane—widening 11 yards of drain and three culverts.
17. Weep holes cut to drain in Tantri Road.
18. Invert of Market Street drain repaired.
19. New grating to drain Castle Court Yard.
20. Repairs to pillars and drain Jutin Street.
21. 107 yards invert repairs Ashanti Road.

CAPE COAST TOWN IMPROVEMENTS.

In April Mr. L. C. S. Wellacott was sent to Cape Coast in order to give practical effect to the scheme for relieving the more congested quarters of the town, which was drawn up by Dr. Beringer in 1913. The following work was accomplished:—

Area bounded by Commercial Street, DeGraft Street, Low Town Street and Beach Street.

(*a*) Schedule prepared showing houses which should be demolished, names of owners, number of people inhabiting each compound, number of living rooms, number of occupants per room, floor area required by Sanitary Regulations, amount of compensation required to enable occupants to erect new buildings according to bye-laws.

(*b*) Survey, contouring and laying out proposed New Township on both sides of Buckman Avenue and Sam Road for reception of dispossessed inhabitants from above-mentioned area.

Amanful Village.

(*a*) New lay out plotted on ordnance sheet.

(*b*) Lists prepared showing number of houses which require demolition with other information as furnished in above-mentioned schedule.

Area bounded by Beach Street, Commercial Street, Chapel Street and Chapel Square.

A schedule similar to those mentioned previously has been prepared for this area.

Demolition of Wangara Settlement.

This was carried out at a cost of £65. 5s. 0d., the inhabitants moving out of the town.

SALTPOND.

Amount of vote £1,000. Expenditure £999. 13s. 1d. = 99·9%.

The following work was carried out:—

1. Construction of three new type 12-pan public latrines.
2. Two incinerators.
3. Nine dustbins.
4. New pump at public tank.
5. Demolition of old dustbins.
6. Alterations and repairs to existing dustbins and latrines.
7. Levelling market site.
8. Two new wash-houses at Police Barracks.
9. General repairs to drains and tanks.

WINNEBAH.

Amount of Vote £1,000, less £5 transferred to Appam for native latrines. Expenditure £822 11s. 0d. = 82·6%.

Constructional work carried out :—

1. One pump (double acting) fixed in prison yard. One pump (double acting) fixed in Clayton House.
2. One new type public latrine.
3. Two tanks at King's Warehouse cleaned and proofed.
4. Three dustbins.
5. Street formation and construction of concrete drains in Commercial Road.
6. Provision of large iron tank to collect rain water from market sheds.
7. Repairs to drains and latrines.

APPAM.

One native latrine.

WESTERN PROVINCE.

SECCONDEE.

1. *Old Seccondee Roads and Drains.*

Work under this item consisted of the construction of 2,070 lineal yards of concrete surface water drains, 729 lineal yards of gravelled carriageway, 789 lineal yards of gravelled footpaths, 3,084 cubic yards of excavation for roads and 1,800 cubic yards of filling of the following streets :—Second, Third and Fourth Streets, Kukwadu, Well, Chama and Hospital Roads, Beach, Crescent and Lanes between Second and Third Streets, and along Open Space between Second and Fourth Streets.

A retaining wall 175 feet long, with an average height of 6 feet, containing 42½ cubic yards of concrete was also constructed on the west side of Fourth Street. Cross walls to prevent scour were built in Third Street, and a post and rail fence 164 feet long erected in Fourth Street.

2. *New Seccondee Roads and Drains.*

The following streets in this part of the town were dealt with :—Council Road, George, Asafu, Sixth, Seventh and Eleventh Streets. These entailed the construction of 1,823 lineal yards of concrete drains, 836 lineal yards of gravelled roadway and also excavation to the extent of 1,283 cubic yards. Poassi Road was formed and 1,315 cubic yards of excavation were necessary—this quantity was used to level up site of Second Lagoon. In Kroo Town, 431 cubic yards were excavated to obtain building sites. New Ekuassie Village—6,283 cubic yards of sand were dumped into the swamp at the East end of this site, also 936 cubic yards of excavation to form new roadway to the Contagious Diseases Hospital. Two concrete market sheds were also constructed at Ekuassie out of this item. New Railway Village.—This site was cleared of bush.

3. *Relief Drain.*

240 lineal yards of this drain which has a section 5′ 3″ × 3′ 6″ were constructed ; 119 lineal yards of this length was in deep cutting and a concrete arch was constructed over the top of the drain and filled over. 182 lineal yards remain to be constructed.

4. *Extension of Main Drain—Up Stream.*

416 lineal yards of 4′ 0″ × 3′ 6″ ovoid section drain were constructed. Ground alongside this drain was graded with a gentle slope towards the carrier.

5. *Remodelling and Levelling Sites.*

6,835 cubic yards were excavated and conveyed to low-lying places in Kroo Town, and 730 cubic yards of muck was spread and levelled on the open space between Second, Third and Fourth Streets.

6. *Reinstating Property.*

Five house floors were raised, four kitchens taken down and rebuilt, owing to the necessity of raising the ground levels in the areas occupied by these buildings.

7.—36 lineal yards of 14 in. × 7 in. drain were constructed and a small retaining wall built in connection with the drainage of Second, Third and Fourth Streets.

412 lineal yards of iron fence were taken down and re-erected on the railway side of the main drain.

470 lineal yards concrete post and barbed wire fence were fixed to enclose land between Hospital Native Staff Quarters and Well Road.

In Council Road, one wall was taken down and rebuilt owing to new drain running too close to foundations.

8. *Demarcation of Streets and Lanes.*

Ekuassie Township was set out as far as was possible.

In Takoradi Village several new roads were set out and also 22 building plots.

Most of the building plots were also set out at the new Mendi Village.

9. *Repairs to Town Drains.*

Drains in Poassi Road, High Street and Market place were repaired and a length of 30 feet in Chama Road reconstructed

10. *Planting and Watering Trees.*

Young trees were watered and several wire guards erected.

11. *Four Bath-houses.*

These were built along the side of No. 1 main drain. They are of cement brickwork with concrete floors sloping to the drain.

Improvement to Landing Beach, Ekuassie.

85 cubic yards of rock were blasted below high water mark, but as no great improvement was found possible the work was abandoned.

13. *Miscellaneous.*

Under this item the following work was carried out:—

Slaughter-house for pigs.
Two concrete dustbins.
One four-pan latrine "K" Hill.
One two-pan latrine near Customs Office.
Repairs to pumps.

AXIM.

Amount of vote £500. Expenditure £396. 16s. 6d. = 79·4 %.

1. Market shed.
2. Two dustbins were built in concrete.
3. One well was started.
4. Destructor: this was built according to the new design.
5. Minor repairs to drains, etc., were carried out.

TARQUAH.

Amount of vote £2,000. Expended £1,998. 19s. 8d. = 99·9%. Plus £640 expended by Gold Coast Government Railways on culvert taking main line over swamp outlet.

1. *Drainage of Town and Surroundings.*

The following work was carried out under this item :—

(*a*) *Railway Swamp.*

The Gold Coast Government Railways constructed a concrete culvert 12′ span to carry their lines over the outfall drain to the swamp at a cost of £640, which was charged to this vote.

Some £600 was expended on clearing, cutting drains, deepening existing drains, planting bahama grass and levelling with a view to draining satisfactorily this large swamp. Much useful work was done.

The mines reservoirs, which are situated just off the line of the outfall drain to this swamp, were provided with proper inlet sills.

(*b*) *Drainage of Town, etc.*

Approximately £925 was spent on the construction of drains in the town. These drains were made with concrete inverts and slate sides.

2. *Slaughter-house Sump.*

A concrete sump to collect refuse from the floor was constructed.

3. *Filling in Swamp by Slaughter-house.*

4. *Three new Wells and Pumps.*

5. *Repairs to Latrines, Wash-houses, etc.*

Five existing latrines were reconstructed ; also four wash-houses.

6. *Destructor and Drying Shed.*

A new type destructor of concrete was constructed and also a rubbish drying shed at a cost of £128.

7. *Road across Swamp to Well.*

This well was inaccessible and a roadway across low-lying ground was necessary before it could be used in all weathers.

Dunkwa.

Amount of vote £1,000. Expended £953. 11s. 8d. = 95·3%.

1. *Slaughter-house.*

The building is of concrete and built to the type designed for small out-stations.

2. *Main Drain.*

A length of 600 lin. yards has been laid down during the year.

ASHANTI.

Coomassie.

Amount of vote £2,000, plus special warrant £300 = £2,300.
Expenditure £2,292 4s. 1d. = 99·6%.

The work carried out at this station is described below:—

1. Six incinerators at Hausa Zongo.
2. Three incinerators in Coomassie.
3. Twelve refuse drying sheds.
4. Providing and fixing pump, Cape Coast Road.
5. Concreting new meat market.
6. Five new public latrines.
7. Concreting course of West Subin Stream.
8. Minor repairs.

Sunyani.

Amount of vote £250. Expenditure £136. 10s. 3d. = 54·6%.

1. Straightening and cleaning course of main stream for 600 lineal yards.
2. Refuse destructor.
3. Concrete foundations for three pumps.

NORTHERN TERRITORIES.

Amount of vote £500. Expenditure £39. 1s. 0d. = 7·81 %.

The only works carried out at this Station under the Sanitary Improvements Vote were the construction of latrines for natives at the Provincial Commissioner's and Provincial Medical Officer's Houses, and the deepening of one well.

APPENDIX No. 2.

REPORT ON THE TEACHING OF HYGIENE IN THE SCHOOLS OF THE GOLD COAST COLONY.

1914.

Although the teaching of hygiene in Government and Assisted Schools has been made compulsory from standard IV. upwards, several of the smaller schools, in which standard III. is the highest class continue to give instruction in hygiene.

Strachan's "Elementary Hygiene" is now more generally used as a base for the lessons, and is proving itself a satisfactory substitute for the book formerly in use—Mrs Deacon's "Lectures on Hygiene."

Many of the teachers have begun to understand that the teaching of hygiene means more than the delivery of scientific names and facts, and have endeavoured to make the children understand the practical, everyday value of what they teach. In one school, to mention only one instance, the teacher made the children model in clay a native village having the usual native defects in sanitation. Under his supervision the children also modelled a village constructed under proper sanitary conditions. Then one boy acted the part of the Chief of the village; a second boy acted as interpreter; a third as sanitary inspector, and the rest of the children formed a chorus of villagers. The "Sanitary Inspector" through the "Interpreter" explained to the "Chief" in the presence of the "villagers" how defective his village was, and, having combated all the "Chief's" objections, produced the model of the correctly planned village, and showed the "Chief" all the advantages to be derived from a village so laid out. Such a lesson marks a decided advance in the growth of the native appreciation of sanitation.

The offer of prizes to schools for the clean and hygienic upkeep of premises and compounds, and to teachers for a like maintenance of their houses, has had a very good effect, and the award of the prizes became a difficulty owing to the number of recommendations made by Inspectors.

As an outcome, there was noticeable among teachers and children a growing pride in their houses and school premises, and managers have taken great pains to foster this pride. This refers more particularly to boarding schools, but it is to be hoped that soon the same keenness will show itself in all the smaller schools and have a permanent influence on village life.

In the teaching of hygiene, too, by means of simple experiments which the children can readily understand, stress is laid on the necessity for having pure water, and the children are beginning, though slowly, to understand in some degree that by having it they may avoid such diseases as guineaworm.

During the year arrangements were made for the free administration of quinine in Government and Assisted Schools, and a scheme was drawn up for the examination of the children by the Medical Department. The teachers of the various classes administer the quinine under direction of the Medical Officer, and keep a record of the number of times they administer and the amount. This scheme should give both teachers and children an insight into the benefits derived from such prophylactic treatment.

(Sgd.) P. MAYALL,
Acting Director of Education.

2nd January, 1913.

APPENDIX No. 3.

RETURN OF SCAVENGERS AND LABOURERS EMPLOYED BY THE SANITARY BRANCH DURING THE YEAR 1914.

The sum of £13,038 was voted for scavengers and labourers, who were employed in towns not under the Town Council Ordinance, and were distributed as follows :—

Station.	Number. employed.	Remarks.
Aburi	11	At Accra, Cape Coast and Seccondee, scavengers and labourers were supplied by the Town Councils. In addition, 82 men were, however, employed at Accra for mosquito-brigade work, and 4 men at the Accra Cantonments, and paid by the Government.
Accra	86	
Adawso	11	
Addah	18	
Akuse	32	
Anamaboe	4	
Appam	11	
Axim	43	
Chama	6	
Dixcove	5	
Dodowa	15	
Dunkwa	24	
Elmina	13	
Kibbi	1	
Komfrodua	7	
Kpong	5	
Kwanyako	6	
Mampong	6	
Mangoase	5	
New Mangoase	16	
Nsaba	6	
Nsawam	16	
Nyakrom	6	
Oblogo	6	
Odumase	5	
Pram Pram	5	
Prestea	6	
Quittah	24	
Saltpond	47	
Soadru	11	
Somanya	13	
Tarquah	69	
Weshiang	10	
Winnebah	38	
TOTAL	587	

The majority of the above labourers were employed upon what is usually described as mosquito-brigade work, that is in removing any conditions likely to favour the breeding of mosquitoes.

APPENDIX No. 4.

RETURN OF MALARIAL FEVER, BLACKWATER FEVER, YELLOW FEVER, FILARIASIS AND DENGUE, DURING THE YEAR FROM THE 1st JANUARY TO 31st DECEMBER, 1914.

1. Name of Colony		Gold Coast.
2. Total area		80,235 square miles.
3. Estimated population—		
(*a*) Total		1,503,386.
(*b*) Europeans		1,343.
(*c*) Asiatics		46.
(*d*) Other races		1,501,997.
4. Births during the year		2,054 (in the Registration Districts).
5. Deaths during the year—		
(*a*) Total deaths		2,597 (in the Registration Districts).
(*b*) Deaths ascribed to Fever		132.
(*c*) Deaths ascribed to Blackwater Fever		6.
(*d*) Deaths ascribed to Yellow Fever		9.
6. Government Hospitals—		
(*a*) Number of such Hospitals (including 10 C.D. Hospitals		31.
(*b*) Totals during year	(admissions)	3,712.
	(deaths)	239.
(*c*) Malarial Fever	(admissions)	356.
	(deaths)	5.
(*d*) Blackwater Fever	(admissions)	19.
	(deaths)	5.
(*e*) Yellow Fever	(admissions)	8.
	(deaths)	4.
(*f*) Filariasis	(admissions)	1.
	(deaths)	1.
(*g*) Dengue	(admissions)	—
	(deaths)	—
7. Government Dispensaries—		
(*a*) Number of such Dispensaries		27.
(*b*) Total attendances during year		48,191.
(*c*) Attendances for Malaria		2,712.
(*d*) Attendances for Filarial Disease		14.
(*e*) Attendances for Dengue		—
8. Medical Service—		
(*a*) Number of Government Medical Officers		57.
(*b*) Number of Special Health Officers		8.
(*c*) Number of other registered Practitioners		18.
9. Schools—		
(*a*) No. of Government and State-aided Schools		160.
(*b*) No. of Scholars registered in these schools		20,246.
(*c*) Percentage of daily attendances		15,152.

10. Estates employing indentured labour—

(*a*) Number of such	No returns.
(*b*) Number of indentured labourers employed	
(*c*) No. of Hospitals and Dispensaries on such estates	
(*d*) Total deaths among such labourers ...	
(*e*) Deaths ascribed to Malaria	
(*f*) Total admissions and attendances at Hospitals and Dispensaries	

11. Estimated revenue of Colony—

Total during year	£1,392,200 0 0

12. Estimated expenditure of Colony—

(*a*) Total during year	£1,848,752 0 0
(*b*) Annual medical and sanitary expenditure	£104,316 0 0
(*c*) Upkeep of Government Hospitals and Dispensaries	—
(*d*) Total salaries and allowance of Medical Officers	£39,368 0 0
(*e*) Total annual sanitary expenditure ...	£47,834 0 0

13. Towns under Municipalities or Town Councils—

(*a*) Number of such	3
(*b*) Total population...	39,883
(*c*) Total revenues—	
Accra	£9,746 5 6
Cape Coast	£3,288 8 11
Seccondee	£4,507 16 5
Total	£17,542 10 10
(*d*) Total sanitary expenditure—	
Accra	£9,491 18 0
Cape Coast	£3,092 15 7
Seccondee	£4,792 15 4
Total	£17,377 8 11

14. TABLE OF DEATHS IN THE REGISTRATION DISTRICTS.

Province.	Population. (Census 1911.)	Total Deaths.												
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Eastern Province ...	38,208	97	79	111	102	108	127	142	128	90	91	77	75	1,227
Central Province ...	25,827	55	38	47	51	52	67	72	99	48	53	39	53	674
Western Province ...	17,216	43	40	78	49	56	61	84	63	55	55	48	64	696
Ashanti	18,853	5	15	28	33	21	21	23	25	20	23	24	26	264
TOTAL	100,104	200	172	264	235	237	276	321	315	213	222	188	218	2,861

15. TABLE OF DEATHS IN THE PRINCIPAL TOWNS.

Town.	District where situated.	Population. (Census 1911.)	Total Deaths.												
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Accra ...	Eastern Province	19,844	61	47	66	57	79	84	84	88	56	64	45	49	780
Labadi ...		2,130	9	4	10	8	4	11	10	11	8	8	8	4	95
Aburi ...		1,609	9	4	5	9	6	8	15	6	3	8	5	5	83
Dodowa		2,307	1	2	5	3	1	5	4	5	5	3	1	2	37
Addah ...		1,582	3	2	4	1	4	1	5	2	2	2	4	1	31
Kpong ...		4,213	6	15	8	10	4	9	13	6	5	4	8	6	94
Akuse ...		3,107	6	4	7	6	4	5	6	5	3	1	3	5	55
Quittah ...		3,416	2	1	6	8	6	4	5	5	8	1	3	3	52
Cape Coast	Central Province	11,306	23	11	20	18	26	33	32	17	21	19	13	14	247
Elmina ...		5,098	5	8	5	10	4	7	5	9	6	8	11	11	89
Saltpond		3,553	8	5	5	7	11	11	13	16	7	10	6	9	108
Winnebah		5,870	19	14	17	16	11	16	22	57	14	16	9	19	230
Seccondee	Western Province	9,122	19	10	19	15	18	14	30	23	15	15	17	16	211
Axim ...		3,307	6	11	10	11	5	7	13	8	9	8	5	4	97
Tarquah ...		2,423	12	15	42	22	31	38	40	23	30	25	21	40	339
Dunkwa ...		2,364	6	4	7	1	2	2	1	9	1	7	5	4	49
Coomassie	Ashanti ...	18,853	5	15	28	33	21	21	23	25	20	23	24	26	264
	TOTAL ...	100,104	200	172	264	235	237	276	321	315	213	222	188	218	2,861

16. RAINFALL DURING THE YEAR 1914.

Station.	Rainfall.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Accra	0·32	0·35	0·52	3·61	4·04	11·79	0·25	0·53	—	0·52	1·20	1·45	24·58
Addah	0·43	0·89	3·51	5·07	11·35	14·64	0·62	—	—	0·90	3·59	0·62	41·62
Aburi	0·52	2·71	7·02	5·17	1·12	5·50	1·12	0·55	0·07	4·56	5·38	3·80	37·52
Quittah	0·85	—	3·63	5·68	3·06	13·17	0·88	0·20	—	0·46	1·76	0·42	30·11
Cape Coast	0·68	2·29	0·56	3·89	7·33	5·96	0·89	0·13	0·10	0·71	2·83	1·71	27·08
Seccondee	1·36	1·40	2·28	4·79	12·62	7·50	3·58	0·32	0·35	0·27	10·65	1·20	46·32
Axim	0·50	3·16	7·86	9·48	24·44	33·26	0·92	1·13	1·73	1·80	20·70	12·00	116·98
Tarquah	0 70	3 69	4·62	3·12	5·14	8·88	1·93	0·27	1·03	3·14	4·46	4·99	41·97
Coomassie	0·30	1·28	4·54	7·36	5·93	8·00	0·83	1·11	1·83	9·93	2·04	1·37	44·52
Kintampo	3·00	0·27	2·17	3·14	3·54	9·24	2·67	2·87	13·65	9·84	4·51	0·10	55 00
Sunyani	1·37	0·03	0·95	5·45	3·21	4·08	1·27	0·38	6·83	11·71	6·22	2·00	43·50
Tamale	0·05	—	0·72	1·57	3·31	4·81	2·09	3·94	10·85	4·77	2·19	—	34·30
Gambaga	—	—	—	0·31	4·68	3·48	2·78	2·86	11·29	3·72	1·53	—	30·65

17. Additional information to be given, if possible, on the following points :—

(*a*) Is there any legislation in force against the breeding of mosquitoes in premises ?	Yes. Ordinance No. 6 of 1911.
Number of notices served	12,556.
Number of convictions	6,991.
(*b*) Number of children examined for enlarged spleen	14,369. See Table XII. in Report.
Where was this done ?	At Government Hospitals, Dispensaries and Schools.
Percentage affected	35·54. See Table XII. in Report.
Does Kala-Azar exist ?	No case yet reported.
(*c*) Number of persons examined for filarial disease	Nil.
(*d*) Any large works for surface drainage of towns or reclamation of marshes	Yes, at Accra and Seccondee. Sanitary Improvements £21,500.
(*e*) Number of men employed in towns and villages for petty anti-mosquito works	Part time of 587 men employed in scavenging was utilised in anti-mosquito work.
Approximate cost	£13,038 was voted for scavenging.
(*f*) Amount of Government quinine sold or distributed gratis during the year	279,000 Tabloids were distributed to School children during the last quarter of the year.
(*g*) Is quinine distributed regularly in the schools ?	Yes.
(*h*) Measures taken against these diseases on estates employing indentured labour	—
(*i*) Any steps taken regarding the housing of the poor	Type Houses being built at Korle Gono and Adabraka for the dispossessed.
(*j*) Any exceptional increase or decrease of these diseases recently noticed	—
(*k*) Any other remarks on the subject	—